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A Retrospect OF DYSPNŒA.*

BY J. CRIGHTON BRAMWELL, M.A. CAMB., M.D. MANCH., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY, AND HONORARY ASSISTANT LECTURER IN EXPERIMENTAL PHYSIOLOGY, MANCHESTER UNIVERSITY.

WHEN I selected dyspnœa as the subject for this lecture I was not aware that the "Causes and Treatment of Dyspnœa" had been the title of the first post-graduate lecture ever given in the Manchester Royal Infirmary. That lecture was delivered in the year 1890 by the late Dr. Daniel John Leech, who was then our professor of therapeutics and senior physician to this hospital. My friend and colleague, Dr. Bosdin Leech, has kindly lent me the manuscript of that lecture in order that I might compare the present position of our knowledge on this subject with that of 40 years ago.

The term dyspnœa implies not merely an increase in the respiratory function, but a consciousness of that increase on the part of the patient; or, as Dr. Leech expressed it, "dyspnœa is present when the *besoin de respirer* becomes apparent." The depth and frequency of respiration in each one of us is continually varying, just as the force and rate of the heart-beat vary, in response to the requirements of the moment. For the most part we are not conscious of these variations, and it is not until the lungs and heart begin to experience difficulty in meeting their liabilities that we suffer from dyspnœa or from palpitation.

As with other subjective symptoms, a second factor plays a part in the production of dyspnœa—namely, the susceptibility of the perceptive nervous mechanism. At the end of the year's work, when we are run down and in need of a holiday, most of us are apt to become unduly irritable and conscious of little annoyances which at other times would pass unnoticed. There is a class of unfortunate individuals, whom we speak of as hypersensitive, whose nervous system is always in this state. For them the threshold of consciousness at which hyperpnœa becomes dyspnœa lies at a lower level than in normal people.

In healthy young subjects, during light and moderate exertion, pulmonary ventilation increases in proportion to metabolism (Fig. 1), but when exercise is very strenuous, ventilation tends to increase more rapidly. It is in the region of this transition that the threshold of dyspnœa is situated. The lowering of the threshold in hypersensitive subjects must be distinguished from the early attainment of the threshold under pathological conditions. In patients with congestive heart failure, for example, the pulmonary ventilation is excessive, even at rest, and since on exertion it increases more rapidly than in healthy subjects, the threshold of dyspnœa is reached abnormally quickly.

CHEMICAL REGULATION OF BREATHING.

The depth and frequency of respiration is controlled by a centre in the medulla, and the normal stimulus which excites the respiratory centre is an increase in its acidity, or, to use the modern terminology, a rise in its hydrogen-ion concentration. The body is extraordinarily sensitive to minute changes of hydrogen-ion concentration; in fact, only a very small range of variation is compatible with life. Two organs, the kidneys and the lungs, are principally concerned with maintaining the reaction of the blood within the prescribed limits. The kidney is, so to speak, the coarse adjustment which eliminates from the system in bulk the excess of acid or alkali as the case may be, while the lung is the fine adjustment, which, by varying the depth and frequency of respiration, can regulate the output of carbon dioxide in such a way as to maintain to a nicety the normal hydrogen-ion concentration. On account of its action on the respiratory centre, carbon dioxide is used therapeutically in carbon monoxide poisoning, and Yandell Henderson[4] has pointed out its value as a respiratory stimulant in anæsthetic practice.

When the kidney is diseased and fails to excrete the acids formed in the body, the readjustment of the acid base balance depends on an increase of lung ventilation. Consequently it is not surprising that dyspnœa is a prominent symptom in certain forms of nephritis. Similarly, in the condition known as ketosis, which is met with most commonly as a complication of diabetes and in association with starvation, abnormal acid substances are produced in the body from the incomplete combustion of fats. By increasing the hydrogen-ion concentration of the blood these ketone bodies provoke dyspnœa.

FIG. 1.

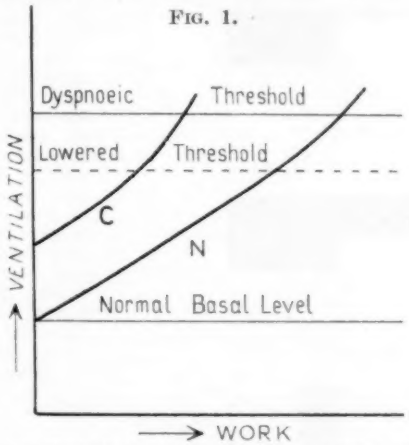


Diagram to illustrate increase of respiratory activity with work in normal (N) and cardiac (C) subjects, and the lowering of the threshold for dyspnœa when the perceptive nervous mechanism is hypersensitive.

It is interesting to note that 40 years ago the dyspnœa of nephritis and diabetes was attributed to an increased sensitivity of the respiratory centre. In fact, it was not until it was shown that carbon dioxide stimulated the respiratory centre by virtue of its acid properties that these two conditions were brought into line with the more familiar types of dyspnœa.

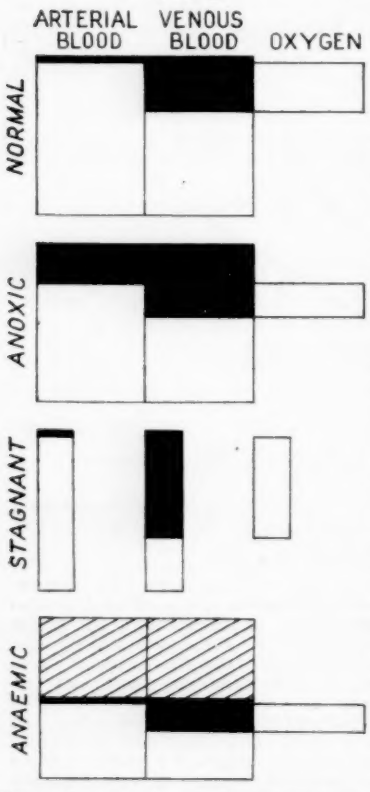
The essential factor, then, in the regulation of breathing is the hydrogen-ion concentration of the blood. The slightest bias towards the acid side stimulates the respiratory centre to increased activity and, if sufficient, will produce dyspnœa, while any change in the alkaline direction leads to a diminution of lung ventilation. There is, however, an additional factor to be considered—namely, the oxygen content of the blood. Oxygen-want renders the respiratory centre unduly sensitive to the chemical stimulus by which it is normally excited—namely, the hydrogen-ion concentration of the blood circulating through it. In people living at high altitudes, for example, the respiratory centre will not tolerate such a high tension of carbon dioxide in the alveolar air as it does at sea-level, and this is one reason why in them dyspnœa is more easily provoked.

Under normal atmospheric conditions, healthy young people, in good physical training, rarely suffer from dyspnœa, except during and immediately after violent exertion. We now know[5] that the actual process of muscular contraction is entirely anaerobic and depends on the conversion of glycogen into lactic acid with the liberation of energy. This is followed by what is called the "recovery phase," during which the lactic acid is disposed of, partly by oxidation to carbon dioxide and partly by reconversion into glycogen. During exercise the contraction and recovery processes are taking place concurrently;

* Post-graduate lecture delivered at the Manchester Royal Infirmary on Sept. 27th, 1927.

and so long as the removal of lactic acid keeps pace with its production, an equilibrium is established and exercise can proceed. As soon, however, as the oxygen supply becomes inadequate to provide for its oxidative removal the lactic acid begins to accumulate in the tissues, and, as A. V. Hill and his co-workers[5] have expressed it, the body "goes into debt" for oxygen. The panting which follows the cessation of exercise in human beings is necessary to pay off this debt, by supplying sufficient oxygen to provide for the removal of the excess of lactic acid which has accumulated in the body during exercise.

FIG. 2.



Types of anoxæmia. Ordinates represent percentage of hæmoglobin, white = oxy-hæmoglobin, black = reduced hæmoglobin. Abscissæ represent blood flow. Hence white and black rectangles represent minute volume of oxy- and reduced hæmoglobin respectively in arterial and venous blood.

Increased metabolism, and the collateral increase in respiratory activity, may also be due to the ingestion of food, while in fever, hyperthyroidism, and certain other pathological conditions the basal metabolic rate is higher than in health—that is to say, the metabolism of the body is increased even at rest and while fasting. Consequently, under all these conditions, when physical exertion is superadded, the threshold of dyspnœa is reached more quickly.

Anoxæmia.

The amount of oxygen available for the tissues is determined principally by two factors: (1) the quantity of blood flowing through the tissues per minute (i.e., the circulation-rate), and (2) the oxygen content of that blood. To maintain an adequate circulation-rate is the business of the heart, while the oxygen content of the arterial blood depends on (1) the oxygen tension in the alveolar air, (2) the ability of the lung to allow the oxygen to pass into the blood, and (3) the hæmoglobin content of the blood. Barcroft has accordingly classified the various types of anoxæmia into three groups.

1. *Anoxic*, in which the pulmonary mechanism is primarily at fault and the arterial blood is not fully oxygenated. This may be due to a low tension of oxygen in the alveolar air, such as occurs at high altitudes, to some gross obstruction in the respiratory passages, or to an actual lesion of the lung itself, as in pneumonia or irritant gas poisoning.

2. *Stagnant*, in which the arterial blood is fully oxygenated, but the circulation-rate is too slow to provide an adequate blood-supply to the tissues. Heart failure is responsible for these cases.

3. *Anæmic*, in which the hæmoglobin content of the blood is reduced to such an extent that, even when the circulation-rate is normal and when the blood, such as it is, is fully oxygenated in the lungs, the quantity of oxygen which it is capable of carrying is insufficient for the requirements of the body.

I have attempted to illustrate these three types in a purely diagrammatic fashion (Fig. 2) by representing the total quantity of oxy- and reduced hæmoglobin in the arterial and venous blood respectively. The rectangles on the right of the diagram illustrate the difference between the arterial and the venous blood—i.e., the quantity of oxygen abstracted by the tissues.

OXYGEN THERAPY.

My reason for referring to the different types of anoxæmia is to point out that it is only in anoxic anoxæmia that the arterial blood is not fully saturated with oxygen in passing through the lungs, and consequently it is only in those cases of dyspnœa which fall into this group that we are likely to obtain much benefit from oxygen therapy. I do not wish to suggest that, in cases of dyspnœa due to either of the other two types of anoxæmia, oxygen therapy is entirely useless, for by increasing greatly the oxygen tension in the alveolar air we can increase the amount of oxygen carried in solution in the plasma, though not the amount which is in chemical combination with hæmoglobin.

There are two conditions in which defective saturation of the hæmoglobin in the arterial blood will not be relieved by oxygen therapy. In certain congenital heart lesions part of the blood is shunted directly from the right to the left heart without passing through the lungs, while in pneumonia that part of the blood which passes through the capillaries of the hepatised lung reaches the left auricle in an unoxygenated state.

It is important to remember, however, that in any particular case there may be more than one factor involved. Profound anæmia, for instance, is frequently accompanied by fatty degeneration of the heart; while in congestive heart failure the reduced cardiac output is often complicated by œdema of the lungs; and in so far as the dyspnœa is due to imperfect aeration of the blood from this cause, relief may be expected from oxygen therapy. Even in the earlier stages of heart disease there is a pulmonary factor involved in the production of dyspnœa, for, as Peabody[6] has shown, the vital capacity (i.e., the maximal ventilation per breath) in these patients is reduced, owing to impairment of elasticity of the lungs resulting from pulmonary congestion. Still another factor which contributes to the production of dyspnœa in cardiac patients is their increased basal metabolism,[8] and I am inclined to think that, in some cases at any rate, there may also be an element of bronchiolar spasm, for I have sometimes seen benefit obtained from hypodermic injections of adrenalin, which strongly suggests an analogy to true spasmodic asthma. In conditions such as pneumonia, cyanosis is generally regarded as the principal clinical indication for the therapeutic use of oxygen. It is, however, important to remember, as Lundsgaard and Van Slyke[7] have pointed out, that general cyanosis does not appear until the hæmoglobin of the arterial blood is less than 85 per cent. saturated with oxygen. Since the normal saturation of the arterial blood is 96 per cent., and the threshold of cyanosis is about 85 per cent., a degree of anoxæmia probably sufficient to damage, at any rate, the more sensitive tissues, such as those of the central nervous system, is already present before cyanosis appears. The aim of oxygen therapy should therefore be to prevent, and not merely to abolish, cyanosis.

Dr. Daniel Leech, in his lecture on the treatment of dyspnœa delivered in 1890, did not even refer to oxygen therapy. I have no doubt that the reason for this omission is that he did not consider the subject of sufficient practical importance to be worth mentioning. The pharmacologists at that time had not realised its possibilities, whilst the clinicians were naturally dissatisfied with the results obtained by the methods of administration then in vogue. It was not until 1915, when the treatment of soldiers suffering from chlorine gas poisoning became a problem of the utmost urgency, that a notable advance was made

in the technique of oxygen administration by J. S. Haldane's[3] introduction of the closed mask method. The aim of oxygen therapy is to increase the partial pressure of oxygen in the alveolar air. Judged by this, the only true criterion, the method of delivering oxygen from a funnel suspended at a distance of some inches from the patient's face, is absolutely useless. Careful measurements[2 6] show that the old open method is incapable of producing any appreciable rise in the oxygen tension in the alveolar air, unless the funnel be actually in contact with the face, and that even so the results compare unfavourably with those obtained by means of a nasal catheter or a closed mask. Even if the funnel had been capable of delivering the oxygen to the lungs, the rate at which it was given by the open method rarely exceeded ½ litre per minute, whereas about eight times this rate of flow is usually necessary. As Davies and Gilchrist[2] have pointed out, any apparent benefit which accrued from such a parsimonious dose can only be attributed to the psychotherapeutic effect.

From the point of view of the patient's comfort, the ideal method of raising the alveolar oxygen tension is to place his bed in a closed chamber in which the oxygen content of the air breathed can be raised to the required concentration. The expense, however, of the apparatus renders this method extremely limited in its application. I do not therefore propose to discuss it further, beyond saying that a modification of this method—namely, the "oxygen tent"—as used at the Mayo Clinic and elsewhere, brings it within the scope, at any rate, of hospital practice; while a miniature oxygen chamber, the "oxygen cot," has been designed by Raper[1] and used with success in the treatment of marasmic infants.

There remain the various types of oxygen mask and the nasal catheter, both of which fufil the fundamental requirement of raising the alveolar oxygen tension. The nasal catheter method is perfectly satisfactory in many cases, but when it is necessary to obtain a high concentration of oxygen in the alveolar air, the rapid rate of flow entails considerable discomfort to the patient. The drawbacks of the mask are obvious. A dyspnœic patient will not relish the idea of having anything put over his mouth and nose which may still further hinder his embarrassed breathing. In this connexion there is a practical point worth noting. When the mask is first applied the patient is apt to take a very deep breath. If he encounters any undue resistance, or if with this first breath he merely takes in air instead of the oxygen-enriched mixture, his discomfort will be increased and he will probably refuse to give the mask a further trial. To overcome this difficulty, Davies and Gilchrist have introduced a modification of Haldane's original apparatus, attaching a reserve bag of about 5 litres capacity to the mask, and filling it with oxygen before the mask is applied. This is sufficient to satisfy the patient's requirements; his initial gasp will bring relief instead of producing additional discomfort, and he will be encouraged to proceed. In Davies and Gilchrist's apparatus a flow-meter attached to the cylinder serves to indicate the volume of pure oxygen in litres per minute which the patient is receiving, while an additional adjustable air inlet in the mask enables the operator to dilute the oxygen with the required quantity of atmospheric air. The general procedure with Davies and Gilchrist's modification of Haldane's instrument is first to set the reducing valve on the oxygen cylinder so that it delivers the required quantity of oxygen per minute to the reserve bag, and then to vary the aperture of the accessory air inlet in the mask until the volume of oxygen drawn into the mask from the reserve bag during inspiration is approximately equal to that flowing continuously from the cylinder into the bag during the whole respiratory cycle.

Since in many pathological conditions oxygen administration must be continuous over considerable periods of time, the question of cost becomes important, and economy has been considered in designing the more modern types of apparatus. It is obvious that it is only during the inspiratory phase of respiration that oxygen can serve any useful purpose, and that at least half the oxygen will be wasted if the supply to the mask be continuous. In Davies and Gilchrist's instrument (Fig. 3) there is a water valve which serves a threefold purpose. It automatically cuts off the oxygen-supply during expiration, it serves as a tell-tale to indicate whether the aperture

FIG. 3.

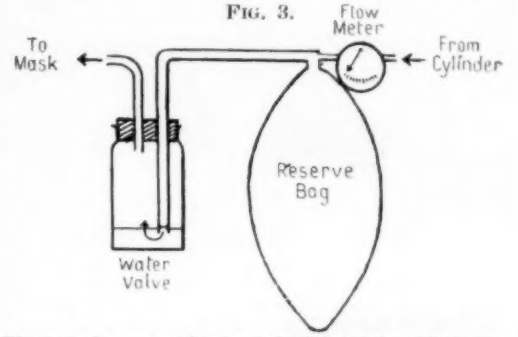


Diagram of a part of Davies and Gilchrist's[2] modification of Haldane's apparatus.

of the accessory air inlet is correctly set, and it saturates the oxygen with moisture.

I have dealt at some length with the question of oxygen therapy, because it is a subject of which the practical importance is not yet sufficiently appreciated, and I am convinced that it will come into much more general use in the near future.

OXYGEN LIABILITY.

Disease in its various mainfestations continually brings us face to face with the economic problem of supply and demand. When the demand of the body for any particular commodity exceeds the supply, symptoms of distress supervene. The relief of those symptoms depends on the restoration of the normal balance, and that may be brought about in one of two ways, either by increasing the assets of the body, or by reducing its liabilities. In dyspnœa we increase the assets by the administration of oxygen. Let us now see how we can reduce the liabilities.

Except in those conditions, such as diabetes and nephritis, in which dyspnœa is directly attributable to an acidosis, and the purely functional cases of nervous origin to which I shall refer later, pulmonary ventilation varies with metabolic activity. By reducing metabolism, therefore, we can diminish the liabilities. Consider, for example, the beneficial effect of rest in cardiac dyspnœa. An attempt to make a badly damaged heart increase its output is unlikely to be successful, but by reducing the demand for oxygen until it no longer exceeds the supply, the normal balance may be restored. Indirectly, by resting the heart muscle, we enable it to recuperate, and so not only diminish the patient's liabilities but also increase his assets. In pneumonia the beneficial effect of opium derivatives in relieving dyspnœa is in part attributable to diminished metabolism, through the abolition of restlessness; morphia is also a most useful drug in cardiac dyspnœa. In urgent cases of severe heart failure with auricular fibrillation I have often obtained most dramatic results by giving morphia hypodermically, in conjunction with massive doses of digitalis; and I am convinced that, by ensuring a period of much-needed sleep, the morphia played an important part in improving the condition of these patients.

The reputation of opium rests primarily on its power to relieve pain. The pleural pain so commonly associated with pneumonia is responsible for limiting the movements of the thorax and producing shallow breathing, and, as the depth of respiration diminishes, its frequency has to increase, even to a greater extent than is at first sight apparent. The reason for this

is as follows. A considerable portion of the air which enters the chest with each respiration remains in the "dead space" formed by the trachea and bronchi, and never reaches the alveoli of the lung. The tidal air (i.e., the amount of air which passes to and fro through the larynx with each breath) during quiet respiration amounts to about 500 c.cm. Of this some 150 c.cm. are required to fill the dead space. Supposing then, for example, that in shallow breathing the tidal air only amounts to 250 c.cm., 150 c.cm. still remain in the dead space and only 100 c.cm. reach the alveoli. In other words, when the depth of respiration is reduced to one-half of the normal, the effective alveolar ventilation is reduced to less than one-third. In an extreme case, supposing that the tidal air were reduced to a quarter of its normal value (125 c.cm.), then, apart from diffusion, only the dead space would be ventilated. I imagine that this is the state of affairs in a dog which is panting. A man pants after exercise to pay off his oxygen debt; but in the dog panting serves a different purpose. A dog pants in order to cool itself. I recently tried to count the rate of respiration in a panting dog, and found that I was quite unable to do so. It is possible to count rapid movements up to about 300 per minute, so I imagine that this particular dog's respiration-rate was considerably faster than that. Shallow breathing, in this case, is a necessary protective mechanism, for, if the dog were to take 400 full breaths per minute, it would in a few seconds reduce the tension of carbon dioxide in the alveolar air to such an extent that the respiratory centre would produce a complete inhibition of respiration—the condition which we speak of as acapnia. Similarly, the functional dyspnœa of nervous origin is so shallow that it fails to produce over-ventilation of the lung alveoli. In this connexion I might point out that shallow breathing is not only a cause but also one of the symptoms of anoxæmia. Hence a vicious circle is established which tends to aggravate the condition. Now, by relieving the pleural pain of pneumonia with morphia we increase the depth of respiration and improve the alveolar ventilation, and so help to relieve the dyspnœa.

The therapeutic use of alkalis in the relief of those forms of dyspnœa associated with acidosis may give temporary relief in nephritis; and, in some instances, the ketosis of diabetes has been found to yield to alkali and insulin when insulin alone was ineffective, but these observations are perhaps of academic interest rather than of great practical clinical importance.

Stimulation of the respiratory centre provides another theoretical possibility for the relief of dyspnœa. At first sight it might seem paradoxical to endeavour to increase the ventilation in cases of dyspnœa; but, from what I have already said, it will, I think, be apparent that we aim at increasing the depth and not the frequency of respiration. To this same mechanism I am inclined to attribute the relief which can sometimes be obtained in the paroxysmal type of cardiac dyspnœa from inhalation of the fumes of an ordinary ammonia smelling-bottle.

In this lecture I have merely touched on the fringe of a big subject. But I shall be satisfied if I have made it clear that we are progressing, not merely in unravelling the complex mechanism of dyspnœa from the scientific aspect, but also in the application of our new knowledge to the rational treatment of disease.

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SUMMARY OF RESULTS OF EXPERIMENTS ON THE PROPHYLAXIS AND TREATMENT OF CHILDHOOD GOITRE

IN HEANOR, DERBYSHIRE.

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THE urban district of Heanor is situated in the south-east of Derbyshire, on the southern end of the coalfield. Its total population is approximately 23,000. It is a busy industrial area, the chief occupations being coal mining, iron founding, and hosiery and lace manufacture. The district is hilly in all parts, the highest point being situated on Codnor Common. It comprises Heanor, Marlpool, Langley, Langley Mill, Milnhay, Aldercar, Loscoe, and Codnor; all these places have a common water-supply and no houses now obtain their water-supplies from wells.

Water-supplies of the Area.

Before the introduction of the present supply in 1902 the whole area depended upon surface wells for the bulk of its water; there was also a local water supply of bad quality, intermittent and totally inadequate for the needs of the people. The present supply is obtained from two sources—viz.: (1) deep springs in the carboniferous limestone, in the vicinity of Wirksworth, 12 miles north-west of Heanor; and (2) from two boreholes in the millstone grit in the Derwent Valley close by the waterworks at High Peak Junction, near Whatstandwell. The bulk of the supply is obtained from the former source (seven parts to three parts of borehole water). *The limestone water is certainly liable to pollution*, but the borehole waters are of exceptional purity (Table I., A, B, C).

The softened water (Table I. (B) was turbid and opaque, from the presence of white suspended matter consisting mainly of $CaCO_3$. The softened and filtered water was clear and slightly greenish-yellow in colour. The softened water was decidedly alkaline from the presence of CaOH, whilst the softened and filtered water was slightly alkaline from the presence of CaOH.

The waters from the boreholes are of very similar character and there is no indication of pollution; the free ammonia is of mineral origin. The waters were free from lead and are satisfactory for drinking purposes. The analyses were made by Mr. John White, the county analyst.

The water at the consumers' end is frequently, in spite of softening, carbonating, and filtering, *very turbid from the presence, as suspended matter, of calcium carbonate, in a very fine state of subdivision.* At the present time the water is softened with lime and carbonated. There are not as yet a sufficient number of filters in use to deal with the total quantity of water consumed. The water contains eight parts of iodine per billion, the iodine content being amongst the highest of any water-supply examined in Derbyshire.

Goitre has been endemic in this area for generations. It was and is exceedingly common, though less severe in its endemicity than in days gone by. I have given the above particulars, as those who are especially interested in goitre problems will appreciate their significance.

Experiments with Iodised Sweets.

During 1926 a series of observations was carried out by me in several schools in the Heanor Urban District on the effect of varying doses of iodine (as sodium iodide) upon the prevention and treatment of goitre in children in the age-groups 8 to 17 years (inclusive). The iodine was administered in the form of butterscotch sweets, each sweet containing the *equivalent* of 1/10th of a grain of iodine as sodium iodide. The sweets were proved to be of standard strength by analysis. In every case the written consent of a

parent was obtained before any treatment was applied.

Each child was first examined in the following manner:—

(1) *Inspection of the Neck.*—The standard adopted was to include as goitrous any child whose thyroid was visible on inspection, so as to cause an alteration in the contour of the neck.

(2) *Measurement of the Neck.*—In the case of every goitrous child the neck was measured before and after the experiments, from the tip of the seventh cervical spine behind to the centre of the neck in front at the level of the cricoid cartilage. In measuring the necks at the final examination an allowance was made for natural increase in the size of the neck (for six months, 1 cm.; for 1 year, 1½ cm.).

(3) In a large number of cases photographs were taken before and after the experiments. This was found to be unreliable as a means of checking observations.

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Photographs showing goitres of varying degree according to the scale adopted.

Approximately half the children of each age were given iodised sweets, the remainder acting as controls. With the exception of the children seen at Codnor, who were specially selected and were few in number (24), the total number of children examined at the five schools was 925, of whom 663 were girls (aged 8 to 17) and 262 were boys (aged 8 to 13). A large

TABLE I.—*Analyses of* (A) *Raw Water from Limestone* (*Merebrook Sough: Source No. 1*), *17/8/26*. (B) *Merebrook Sough Water* (*Deep Spring in Limestone*). (C) *Borehole Waters*.

—	(A)	(B)			(C)	
	Parts per 100,000.	Softened.	Softened and carbonated.	Softened and filtered.	Parts per 100,000.	
					No. 1.	No. 2.
Total solids	35·0	26·0	26·0	18·0	22·5	22·5
Organic and volatile	—	—	—	—	1·0	—
Saline residue	—	—	—	—	21·0	—
Free and saline ammonia	0·0	0·001	0·001	0·0	0·006	0·009
Albuminoid ammonia	0·001	0·004	0·002	0·001	0·001	0·002
Nitrogen as nitrates and nitrites	0·08	0·05	0·05	0·11	0·0	0·0
Chlorine	2·0	1·95	1·85	1·9	1·3	1·45
Oxygen absorbed in 4 hours at 80° F.	0·003	0·016	0·022	0·014	0·005	0·006
Hardness—Temporary	18·16°	9·20	8·15	2·16	11·10	10·43
Hardness—Permanent	13·42°	6·43	9·71	8·14	8·32	7·43
Hardness—Total	31·58°	15·63	17·86	10·30	19·42	17·86
Appearance in 2-foot tube	Cl. bl.	Turbid.	Turbid.	—	Turbid and greenish-yellow.	
Suspended matter	—	Present.	Present.	—	—	
Metals	—	—	—	—	Marked traces of iron.	
Alkalinity calculated as $CaCO_3$	—	6·40	—	4·30	15·90	—
,, ,, CaOH	—	4·44	—	1·11	—	—
Silica	—	0·60	—	0·70	1·10	—
Oxides of iron and alumina	—	0·20	—	0·25	0·25	—
Lime, CaO	—	9·00	—	2·00	4·90	—
Magnesia, MgO	—	1·08	—	2·23	2·98	—
Sulphuric anhydride SO_3	—	4·46	—	4·12	0·96	—

Cl. bl. = Clear and bluish.

TABLE I. (B) and (C).—*Calculated Analyses showing the manner in which the Acids and Bases may be Combined.*

—	(B)		(C)
	Parts per 100,000.		
	Softened.*	Softened and filtered.	No. 1.†
Calcium carbonate	3·70	2·10	8·75
,, hydrate	4·44	1·11	—
,, sulphate	7·58	—	—
,, chloride	0·78	—	—
Magnesium carbonate	2·26	4·60	6·20
Sodium chloride	2·39	3·10	2·14
,, sulphate	—	7·00	1·70

* Softened and carbonated water = No result. † No. 2, no result.

TABLE II.—*Showing Results of Prophylaxis and Treatment of Goitre in Children with Iodine.*

School.	Age-group.	Duration of treatment.	Period of observation.	Amount of I_2 given.	Normal children. Increased in size.		Goitrous children. Increased in size.		Goitrous children. Decreased in size.	
					T.	Ut.	T.	Ut.	T.	Ut.
		M.	M.	Gr.	%	%	%	%	%	%
1. Girls.	8–10	4	6	1·6	15·4	4·6	44·4	14·3	33·3	28·6
2. ,,	8–13	4	6	1·6	15·2	19·4	36·6	35·0	31·7	47·5
3. Boys.	8–13	4	6	1·6	6·0	11·1	27·7	41·7	33·7	41·7
4. Girls.	8–13	10	12	4·4	19·7	18·0	53·9	43·7	32·3	46·9
5. ,,	10–17	2½	6	5·0	31·2	26·9	38·1	23·5	19·1	29·4

M. = months; Gr. = grains; T. = treated; Ut. = untreated.

number of those who left school before the completion of the experiments are not included in the returns (Table II.).

Normal.—In two of the groups (Nos. 2 and 3) the percentage of increase in size (i.e., those who developed visible signs of enlargement of the thyroid) amongst those untreated is greater than amongst those who were treated. In the three remaining groups, however, the position is reversed, where the percentage of increase in size is greater amongst those treated than in those who were *not* given iodine. The excess percentage of "increase in size" of the treated over the untreated is in one case as much as 10·8 per cent. The conclusion I draw from these results is that normal children in this goitrous area are, on the whole, better without iodine, even in small amounts.

Goitrous: (*a*) *Increased in Size.*—Amongst those who were treated with iodine the percentage of goitres which actually increased in size is in excess of the percentage of those which increased in size in four groups of those which were untreated (Nos. 1, 2, 4, and 5). In group No. 3 (boys) there were more which increased in size amongst the untreated than amongst the treated.

(*b*) *Decreased in Size.*—In a large number of instances those who were marked as having "decreased" were found to have lost their goitres entirely. This was the case both in those who were given iodine and in those who received no iodine. The remarkable fact is that as many as 47·5 per cent. of goitres in childhood disappear or decrease in size spontaneously. I have observed this tendency before in many children; McCarrison has done the same. In forming an opinion regarding the value of iodine in the treatment of childhood goitre insufficient notice has been taken by many people of this tendency to spontaneous disappearance. There is little doubt that many of the alleged cures following the use of iodine would have happened without it. In four of the groups (Nos. 2, 3, 4, and 5) there is an *excess* of percentage of those which decreased in size amongst those who were not treated over those who were treated with iodine.

Conclusion.

The observation of a large number of school-children over periods ranging from 6 to 12 months proves, in this particular goitrous area, that a large number of goitres seen between the ages of 8–17 either decrease in size or disappear entirely without the aid of iodine. The results of treatment of cases of goitre show that, whatever their cause may be, deficiency of iodine cannot be the cause, on account of so many being adversely affected.

In this connexion the recent work of R. McCarrison[1] proving that diets defective in their vitamin content, and, in particular, vitamin B, are capable of causing goitre of a type hitherto unproduced experimentally and in no way related to iodine intake is illuminating.

Whilst no actual harm has been observed in any individual child the good which has been done in those who responded favourably is overbalanced by the considerable number of those whose goitres have reacted unfavourably to the treatment. In other words, both the prophylaxis and treatment of goitre with iodine is not to be recommended as a general measure. It is not difficult to cause considerable distress with iodine, and as far as treatment of goitre is concerned this is a matter either for clinics or the attention of individual doctors.

The administration of the *equivalent* of 5 gr. of iodine as sodium iodide during two periods of five weeks each within six months would be deemed by many to be sufficient to prevent the onset of any goitre in those receiving it, but in spite of this amount over 31 per cent. of girls developed goitre during the period of observation.

Much smaller amounts of iodine as iodide have been claimed not only to prevent goitre, but to do many other things as well. I have not observed that the inhabitants of Derbyshire are in any way thicker-headed than the inhabitants of other counties, though their necks may be thicker; indeed, it is by no means unusual to find children with quite large goitres who are sharp, intelligent, and well developed. In many instances the goitres seen in children are nothing more than physiological swellings, and it is an impertinence to interfere with them.

It is perhaps worth recording that at the final examinations I took pains not to know which child had received iodine or which child had been untreated until the examination of the school had been completed.

I acknowledge with pleasure my indebtedness to Dr. W. M. Ash, the county medical officer of health for Derbyshire, for permission to publish the figures given in this paper.

[1] THE LANCET, 1927, i., 916; Indian Journal of Medical Research, July, 1927.

TYPHOID CARRIERS IN WESTERN NORWAY:

RESULTS OF CHOLECYSTECTOMY.*

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ON the Western coast of Norway typhoid and paratyphoid B are still rather frequent. Their distribution is very unequal; in certain localities the disease is constantly recurring, whereas other large areas are quite free. A distribution of this kind speaks strongly for the presence of carriers.

Since 1919 a systematic search for carriers has been undertaken at Dr. F. G. Gade's Pathological Institute in Bergen. Up to the present 42 carriers have been found—18 typhoid and 24 paratyphoid B.

Of this total number one-half are old chronic carriers found in the endemic foci mentioned, 14 are new cases found by a careful control of convalescents where the excretion of bacilli has persisted more than a year, 2 were found by bacteriological examinations of gall-bladders surgically removed for stones, and 5 by post-mortem examination. Of these 42, 3 were urinary carriers and 39 intestinal carriers. In this latter group there were 2 men and 37 women. The preponderance of the female sex which is found everywhere is in our material even greater than usual. While in Germany about 75 per cent. have been found to be women and in Denmark 77 per cent., in our material the percentage at present is about 95 per cent.

These carriers are scattered all along the coast. As to their occupation about half of their total number are wives of small farmers, having to do both the cooking for their family and the milking for sale. On investigation of the modes of infection for the secondary cases, which are known to be infected from these carriers, it is found that at least two-thirds of them are due to milk or food infection. In the other third the cases occur in the carriers' own family and may be put down either to personal contact or to milk and food again. Thus in the cases studied milk and food infections are dominant. The simplest way to meet this danger, as far as the general public is concerned, would be to pasteurise all milk in these districts, but so far it has been of little avail to plead for pasteurisation. As yet the State has been none too willing to give compensation for lost income to these carriers. The problem how to prevent infection from them is therefore in Norway very difficult, perhaps more difficult than in most other countries, and one is forced to look around for some other means to deal with them.

Removal of the Gall-bladder.

The main point of interest about these carriers is that in a certain number of them the surgical removal

* Read at the Pathological Section of the Royal Society of Medicine, Nov. 15th, 1927.

of the gall-bladder has been carried out, as an attempt at obtaining a final cure. It is well known that there is a close connexion between the carrier condition and the presence of gall-stones. Without entering upon the question of the relation between chronic typhoid cholecystitis and stone-formation, it is enough to say that once a stone is formed which is too big to be excreted through the bile passages, this will, for an indefinite period, prevent the gall-bladder from freeing itself from the typhoid infection. As long as the stone remains in the gall-bladder it both hinders mechanically the complete evacuation of the infected bile and the fresh in-coming bile is reinfected by the stone. It is important to know whether stone-formation in the gall-bladder is the only typhoid focus in these carriers. There seems to be some confusion upon this point, partly at any rate due to the fact that the distinction has not always been made sharply enough between the more immediate after-effects of typhoid infection and the ultimate chronic carrier condition. In this chronic stage the gall-stone undoubtedly plays by far the more important part. There is, of course, the possibility that in some cases the process can go further. In one post-mortem case, in addition to cholecystitis and numerous stones, we have seen a paratyphoid cholangitis of the liver with secondary cirrhosis and primary hepatic carcinoma. But cases of this kind will give clinical symptoms, and they are late complications. It can safely be said that, as a rule, in the average healthy carrier, where there are no symptoms of a more far-reaching process, the infection of the gall-bladder is an isolated remnant of the infection. All surgical work with gall-stones shows that, at any rate for a long time, this process is localised to the gall-bladder. The same holds good for the typhoid gall-stones. Of 14 operated cases in our series 13 show the process localised to the gall-bladder and to the gall-bladder alone. In this respect there is no reason to argue differently about a stone appearing after typhoid than about stones of a different ætiology. After typhoid the organism is on the whole immunised against its own bacilli, and they have no chance of surviving indefinitely where blood serum and leucocytes have free access. Practically speaking, it is only where the bacilli are given facilities such as are afforded by a gall-bladder with stones or by the renal pelvis that the typhoid infection can be chronic.

This reasoning suggests that the carrier state as a rule is due to a purely local process in the gall-gladder. Where internal treatment does not help, and where every hope of spontaneous recovery must be given up there is only one rational treatment—namely, to remove the gall-bladder and drain the hepatic duct.

The removal of the gall-bladder is no small operation, but there is so much at stake that it may be fully justified. When the neighbours realise the constant danger of infection the carrier's existence out in the country is generally so miserable that he often prefers to take even a heavy risk, if there is any chance of getting rid of the infection. Also, a stone in the gall-bladder is in itself serious enough, because of the possible complications, to justify the question of early removal being raised. And finally, from the point of view of the public health, the danger of spreading infection is often very great.

RESULTS OF CHOLECYSTECTOMY IN 14 CARRIERS OF TYPHOID AND PARATYPHOID B.

Carrier No.	Sex and age.	When infected.	Operation.	Found at the operation.			Examination after the operation.				Notes of later examinations, fæces, and urine.
				Gall-stone.	Histology of gall-bladder.	Culture from bile.	Bile fistula.	Fæces.	Urine.	Duodenal contents.	
4	F., 18	1918	7/8/20	+	Normal.	Typhoid.		—	—		6 neg. tests in 1920 (110 days).
10	F., 29	1916	6/10/20	+	Normal.	Para. B.		2, 8, & 20 days +; later —.	—		22 neg. tests, 1920–26 (5¼ years).
11	F., 42	1919	25/10/20	—	Normal.	—		+ Typh.	—	+ Typh.	Continued excretion of bacilli (7 years).
12	F., 66	1919	22/4/21	+	Chronic cholecystitis.	Typhoid.	6 and 14 days +; later —.	—	—		16 neg. tests, 1920–21 (1 year).
13	F., 45	1917	7/9/21	+	In the main normal.	Typhoid.		5 days +; later —.	—		24 neg. tests, 1921–22 (1¼ years).
14	F., 37	1922	12/5/24	+	Chronic cholecystitis.	Para. B.					Dead 6 days after operation.
20	M., 42	1906	28/1/25	+	Chronic cholecystitis.	Typhoid.		—	—		6 neg. tests, 1925 and 1926 (1½ years).
22	F., 34	?	27/12/24	+	Acute and chronic cholecystitis.	Para. B.	18 days +; later —.	2 days +; later —.	—	—	9 neg. tests, 1925–27 (2¾ years).
25	F., 53	?	9/2/26	+	Chronic cholecystitis.	Para. B.	25 days +; later —.	—	—		10 neg. tests, 1926–27 (1 year).
27*	F., 50	?	8/12/25	+	Chronic cholecystitis; pus in gall-bladder.	Para. B.	4 days +; later —.	—	—		5 neg. tests, 1925–27 (1½ years).
29	F., 28	1925	31/3/27	+	Chronic cholecystitis.	Para. B.		—	—	—	6 neg. tests, 1927 (½ year).
30	F., 24	1925	22/7/26	+	Chronic cholecystitis.	Para. B.	20 days +; later —.	—	—	—	6 neg. tests, 1926–27 (¾ year).
31	F., 23	1925	20/10/26	+	Chronic cholecystitis. Adherences to intestines.	Para. B.	14 days +; later —.	—	+		Gall fistula remains open. Urinary infection with paratyphoid. Tuberculosis of cervical gland.
33	F., 36	1926	8/1/27	+	Acute cholecystitis.	Para. B.		—	—	—	5 neg. tests (¼ year).

* In this case the operation was cholecystostomy, because of the condition of the gall-bladder. In all other cases cholecystectomy.

Indications for Removal.

Before the question of operation can be raised it must first be shown that the carrier state is a lasting one, that cannot be altered by internal treatment. Next the process must, as far as possible, be localised to the gall-bladder. Positive findings of typhoid bacilli in the fæces and in the duodenal contents, coupled with their absence from the urine, make it very probable that the process has its seat in the gall-bladder, this being the ordinary localisation, but this is not necessarily so. Complete certainty is only possible when there have been symptoms of gall-stones or where it is possible to demonstrate gall-stones by X rays. In some cases, but probably only rare ones, the process may be outside the gall-bladder, as has been the case in one of our 14 patients who were operated upon.

When these points are settled the surgeon will have to decide whether special contra-indications are present. In younger persons, where the operation may be supposed to be well tolerated and where there is no

reason to think of complications and no hope of spontaneous recovery, it seems rational to try operation, and we have systematically advised such carriers to have the gall-bladder removed.

Results of Operation.

Up to the present time 12 chronic carriers have been treated by removal of the gall-bladder; two further cases were operated upon for gall-stones and may be considered in the same series as paratyphoid organisms were found in pure culture from the gall-bladder. Of these 14 operations two have had an unfortunate course. One, a female inmate of a lunatic asylum, died six days after the operation. Post mortem it was found that the common bile-duct was ligatured and the bile was flowing into the peritoneum. The other showed at the operation adhesions round the gall-bladder; after the operation the flow of the bile through the external fistula persisted, but a second laparotomy failed to show any definite cause for this. A biliary fistula has in this case kept open; urinary infection with paratyphoid B has supervened and on the top of all this the patient has developed tuberculosis of the cervical glands.

In the other 12 cases the course after the operation has been quite normal. The flow of the bile through the fistula has ceased in a couple of weeks and the patient has left the hospital, in some cases as early as three weeks after operation, though as a rule the patient has been kept in the hospital for some time for the sake of the bacteriological control of fæces, urine, and duodenal contents.

In one of these 12 cases the action of the operation on the excretion of bacilli has been nil. In this case the operation showed that a wrong diagnosis was made as to localisation; there was no gall-bladder infection, the bile being quite sterile, and no stone. In this case the duodenal contents were not examined before operation, but they have been examined once later, and typhoid bacilli were found. The excretion of bacilli has in this case continued for seven years after operation, and to the present day it is not known where the infection is localised. The possibility of stones in the pancreatic duct has been considered, but no sure evidence of their presence has been found, either by X rays or by examination of the diastase reaction in the urine. We have here stumbled upon one of the exceptions from the rule and at the present it seems as if we have no means of recognising such exceptions beforehand.

In the other 11 cases the operation has been quite successful, as also the excretion of bacilli by the fæces has stopped. Typhoid or paratyphoid bacilli can be found in the fæces some days after the operation; in one case paratyphoid bacilli were found for 20 days, but after this lapse of time it has not been possible in these 11 operated carriers to find the specific bacilli.

Bacteriological Control.

The bacteriological control of these operated cases has been made as complete as possible under the existing conditions. During the first period after the operation the fæces, urine, and in some of the later cases the duodenal contents have been controlled in the hospital as frequently as it has been found practicable. After discharge from hospital the examination of the fæces has continued, the patients sending to the laboratory samples of their fæces, taken after laxatives and under as much control as possible. The details of this examination will be found in the table. The length of time it has been possible to continue this control and the number of the examinations vary a good deal in the different cases; in one case the control has extended over 5¼ years after the operation with 22 negative tests. In later cases the demands for control have been lowered to one year and in a couple of cases there were 24 and 16 negative tests in the first 1–1¼ years after the operation. In other cases, again, the patients have been less willing to submit to the control, and it has only been possible to obtain more sporadic examinations; the numbers will be found in the table appended. The last operated cases are still under observation.

In addition to this bacteriological control there is another mode of control possible in these cases. The population is relatively sparse on the Norwegian coast, and on the whole there is little difficulty in keeping in contact with the operated cases and keeping up effective epidemiological observation. Every new case of typhoid in this part of the country is reported upon to the epidemiologist with all particulars about their source of infection. Every new case of typhoid in the surroundings of these patients would at once attract attention, also every case in which some connexion with an operated carrier might be even suspected. During the years that have passed since operation (the first patient having been operated on as long as seven years ago) there has not been a single case of typhoid in the immediate surroundings of any of the operated carriers and no case in which there even was a suspicion of any of them having caused infection.

In consequence, so far as the observations go up to November, 1927, both the bacteriological control and a prolonged epidemiological observation offer evidence to show that the operation of these 11 carriers has effected a definite and lasting cure. Consequently the operation may be justified in cases otherwise suitable, as a means in the systematic war against typhoid. As long as there is no sure method of dissolving gall-stones we shall have to fall back upon operation in all cases where we wish to make an attempt at curing typhoid carriers, and we believe it is evident that in suitable cases a lasting cure may be effected.

CATARACT EXTRACTION WITH PERIPHERAL IRIDECTOMY.

NOTES OF TWO CASES.

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EXTRACTION of cataract is an operation which lends itself to a considerable number of modifications, varying according to the nature of the eye and the practice of the particular surgeon. At one time the operator is quite content with an incision which is entirely corneal, while at another he is anxious to have a considerable conjunctival flap. One surgeon is satisfied with a mere division of the anterior capsule of the lens, another endeavours to remove a piece of the capsule, while a third aims at nothing less than the removal of capsule and lens intact. The iris alone may be dealt with in three different ways. One method is to replace it in position, intact, after expressing the lens; this operation is known as simple extraction. Another method is to perform iridectomy, to remove a portion of the iris, including the pupillary border, before removing the lens; this procedure is termed combined extraction. The third method consists in removing a small portion from the periphery of the iris, usually after the lens is delivered; this is more modern than the other two methods, and has certain advantages over both.

Prolapse of Iris.

Simple extraction, when successful, yields excellent results. Unfortunately, however, it runs the risk of a very serious complication—namely, prolapse of iris. This has been described as "la bête noire" of simple extraction. It may occur after the most skilfully performed operation, and in that type of tranquil patient that is usually associated with a perfect result. At the first dressing, 24 or 48 hours after the operation, the surgeon observes a portion of the iris at the corneoscleral margin protruding through the wound. This means that the wound has opened, that aqueous has escaped, and that the out-

rush of aqueous has carried with it a portion of the iris, which has remained between the lips of the wound. While it is true that a small incarceration of iris in the wound—short of prolapse—may reduce itself, and while tags of iris in a wound frequently atrophy and cause no further trouble, yet prolapse of iris delays healing of the wound, the aqueous continues to drain away, the anterior chamber remains open for a longer time, and so the risk of infection is increased. Infection may take place before the wound heals, or it may occur later through the resulting cicatrix. If the piece of iris is not removed before adhesions occur, subsequent treatment is difficult and unsatisfactory. To operate on a prolapsed iris even soon after its occurrence is difficult, because of the increased sensitiveness and irritability of the eyeball, and a general anæsthetic is often necessary. Failure to deal effectively with prolapse of iris will almost certainly lead to further trouble. The cicatrix which forms is permanently weak, and may yield before the intra-ocular tension of the eyeball, forming a cystoid cicatrix. Delayed infection is probable and serious. The patient complains of recurrent attacks of redness and pain, a condition which at first yields to treatment, but which readily relapses, the attacks becoming more severe until intractable chronic cyclitis with its sequelæ is established. Sympathetic ophthalmia is not unknown. It is surprising how frequently microscopic examination of an eye in which cyclitis has followed cataract extraction reveals the presence of a small incarceration or prolapse of iris.

Many reasons have been given for the occurrence of prolapse of iris after simple extraction. Most surgeons are agreed that anything which delays the sealing together of the wound edges increases the risk of prolapse. A technique should be adopted which will bring the lips of the wound together in perfect apposition. The corneal puncture and counter-puncture should be made about 1 mm. above the horizontal meridian, and great care should be taken to see that the plane of the incision remains parallel with the plane of the iris, otherwise the operator will probably find the wound gaping a little after the lens has been expressed. When the lens is being extracted, the iris must not be handled too roughly, or an atonic condition of the musculature will be induced predisposing to prolapse. Atony of the iris occurs more frequently when the cataract is hypermature. Another predisposing cause of prolapse is avoided by expressing most of the cortical lens matter after the nucleus has been delivered. Prolapse of iris may be accidental. Excessive pressure from the patient's fingers or the bandage, or careless manipulation of the bandage may reopen the wound. Restless, anxious, nervous, or stupid patients, or those with chronic cough, are more likely to have a rupture of the wound.

In 1897 Fuchs drew attention to the fact that prolapse of iris may occur in spite of the most perfect technique, and even in the most tranquil patients. It may occur when least expected, not infrequently during the first night after operation, probably when the patient is asleep. Fuchs suggested that it is associated with a rapid agglutination of the wound. Aqueous collects in the posterior part of the aqueous chamber; for a time the balance between formation and drainage of aqueous is upset, and the accumulation of aqueous continues until it reaches a point when it causes a sudden opening of the wound. The aqueous behind the iris must escape, and as it does so it carries with it a portion of the iris.

Operative Modifications to Avoid Prolapse.

Those who practise simple extraction of cataract as a routine must be prepared, on occasion, to deal with prolapse of iris, and they will probably lose some eyes as a result of chronic cyclitis. Because of this, many surgeons perform combined extraction. Before expressing the lens, they deliberately excise a portion of the iris extending from the pupillary edge to the attached margin. This not only facilitates the removal of the lens, but also reduces the tendency to prolapse. In some cases preliminary iridectomy may be performed some weeks before extraction of the lens.

Combined extraction, while certainly reducing the risk of prolapse of iris, has the disadvantages of loss of a functioning pupil. To avoid these the method of limiting iridectomy to the periphery of the iris has been introduced. After the lens is delivered, a small button-hole is made in the iris so that the sphincter iridis muscle is left intact. This method has three advantages over combined extraction. First, there is less disfigurement, probably none. When a portion of the iris extending from the attached margin to the pupillary edge is removed the coloboma is easily seen on close inspection. Most patients do not mind this disfigurement, but occasionally one does meet objections to what certain fastidious Americans call "the inverted keyhole." The peripheral hole in the iris, on the other hand, is covered by the upper lid, or is hidden behind the limbus corneæ, and is seen only when the patient looks up. In the second place, when the sphincter muscle is severed, the advantages of a contracting pupil are lost. When a strong light falls on the eye, the pupil normally contracts, but when this reflex is interfered with, a certain amount of dazzling must follow. Astigmatism resulting from the corneal wound will also be more troublesome when there is an extensive absence of iris underneath. These optical defects, however, are not of great importance, especially when correcting lenses are worn. The most important advantage of peripheral iridectomy over total iridectomy is that it entails less risk of prolapse of the lens capsule after extraction of the lens. Complete iridectomy is performed before the lens is expressed; then, after removal of the lens, the edges of the coloboma are replaced as far as possible with a spatula. The lens capsule at this stage is transparent, and one cannot always be sure that its remains are replaced in good position. In the other method, the iris is replaced intact with a spatula, and this is much more likely to prevent capsule protrusion. Then, when the iris and capsule are in good position, peripheral iridectomy is performed.

Historical Survey.

Peripheral iridectomy in cataract extraction was first performed by Charles Bell Taylor, of Nottingham. In 1871 he published a method of "extracting cataract by a peripheral section of the iris without injuring the pupil." Taylor removed a piece from the periphery of the iris *before* expressing the lens. The portion removed, while leaving the pupil intact, must have been of considerable length and oval rather than circular in shape, because the lens was expressed through the gap in the iris instead of through the pupil. In introducing this method, Taylor emphasised two points: (1) the risk of prolapse in simple extraction; (2) the advantage of a round pupil.

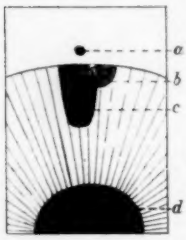
In 1890 H. B. Chandler, of Boston, described a somewhat similar method. He also performed peripheral iridectomy *before* dealing with the lens, but he delivered the lens "in the normal way," that is, through the pupil, and not through the gap in the iris.

The next important modification seems to have been introduced by Pflüger, of Berne. In 1897 he resuscitated the operation, and brought it before the notice of ophthalmic surgeons at an international meeting in Moscow. His modification consists in removing the peripheral piece of the iris *after* the lens is delivered. This alteration met with approval, and has remained the general practice. The operation is generally known as Hess's operation, but Hess did not introduce it. He did much, however, to render it more popular in Germany. In 1909 he reported his experience of 1000 cases. His special forceps for picking up a portion of the iris at the periphery is very widely used at the present time. Hess held that peripheral iridectomy is more successful than total iridectomy in preventing prolapse of iris.

From time to time operators have reported their results, and it appears that the operation is being

more frequently performed now than formerly. In 1923 Barkan, of San Francisco, published a careful analysis of 249 consecutive cases of extraction of cataract performed by Prof. Meller, of Vienna. In 180 of these cases Meller had performed peripheral iridectomy and, from his study of the results obtained, Barkan was convinced of the efficacy of this operation in preventing prolapse of iris. In 180 cases with peripheral iridectomy prolapse of iris had occurred twice, while in 46 cases of combined extraction prolapse had also occurred twice. Barkan adds: "A large capsule bite, persistent massage of the débris, peripheral iridectomy, and perhaps 10–20 per cent. discissions will yield as good an average result as any intracapsular operation, and much less actual loss."

FIG. 1.



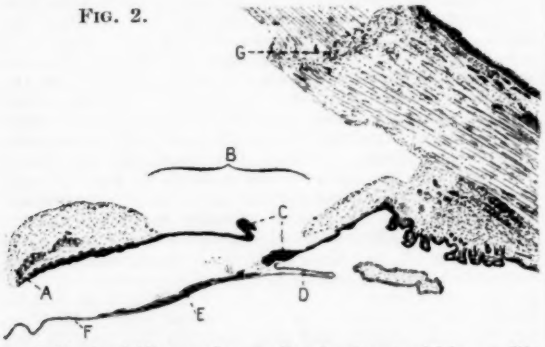
A. Small nodule of pigment under conjunctive. B. Proliferating pigment epithelium on posterior surface of cornea. C. Peripheral hole in iris. D. Pupil.

Peripheral Iridectomy.

Prolapse of iris after peripheral iridectomy is very rare. Sometimes, however, a little nodule of pigment appears under the conjunctiva after the wound has healed. The following case illustrates this less important complication.

Z. E., a male, aged 60 years, had a cataract extracted from the left eye on Jan. 9th, 1924. The eye healed well, and the patient was discharged from hospital a fortnight later. On August 28th he was readmitted to hospital for extraction of cataract from the right eye, and on this date the left eye was re-examined. The scar wound was found to be firm and flat, the anterior chamber was deep, and though some lens capsule remained, there was a central hole in it. V.A.L. c + 10·5 D.S. = 6/6, c + 14·0 D.S. = J.I. On this date it was recorded that there was a small punctate pigment mass in the region of the wound. The cataract in the right eye was extracted on August 29th, with peripheral iridectomy. On March 30th, 1927, the patient returned to hospital for re-examination. He had no complaint and could see 6/6 and J.I. with each eye with correcting lenses. The corneal microscope and slit-lamp revealed an interesting condition in the left eye. Under the conjunctiva, on the outer surface of the wound, above one edge of the gap in the iris, there was a small black nodule of pigment—Fig. 1 (A). Underneath this, on the inner or posterior surface of the cornea, there was a dark flattened area of proliferating epithelium (B); this was not so densely black as the outer nodule, it was more rarefied and flattened, and showed dark radiating lines like the wing of a fly. One feels sure that if a microscopic section could have been prepared of the corneal wound, pigment would have also been found extending through the wound. There was no anterior synechia.

FIG. 2.



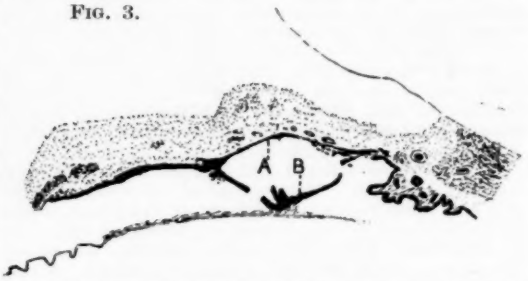
A. Sphincter iridis muscle. B. Gap in stroma of iris. C. Pigment epithelium of iris. D. Remains of anterior capsule of lens. E. Cortical lens matter. F. Posterior capsule of lens. G. Corneal cicatrix.

In this case cataract was extracted from both eyes by the same method. In each eye the vision was 6/6 and J.I. with correction, and the patient had no complaint. In one eye, however, there was pigment about the wound as described, while in the other eye there was no such complication. Neither eye showed any inflammatory reaction, yet the eye with the pigment in the wound seems more likely to suffer from late infection.

Another case seems to throw some light on the anatomical explanation of the presence of this pigment.

H. Z., a female, aged 57 years, had a mature cataract in the right eye and an incipient cataract in the left eye on April 28th, 1926. In childhood she had had inflammation in the right eye. In the right eye there was a superficial scar of the cornea, the anterior chamber was of medium depth, a little deeper than in the left eye, the pupil and iris were normal, and the lens was opaque, the cataract extending forwards to the anterior capsule. Light perception at 6 metres was present, and light projection was good. The cataract was extracted from the right eye on April 30th, and peripheral iridectomy was performed. Prior to expression of the lens, a portion of the anterior capsule was removed with capsule forceps. Next day the anterior chamber was deep, and very little remaining lens matter was to be seen. Subsequent healing of the eye was normal. The patient developed lobar pneumonia, and on May 12th was transferred to the Department of Internal Medicine. Death took place on June 3rd, 1926.

FIG. 3.



A. Anterior layer of pigment epithelium of iris. B. Posterior layer of pigment epithelium of iris.

The right eye was obtained for pathological examination. A piece of the eyeball was removed on the nasal side, and then vertical sections were prepared, 20 μ in thickness.

Fig. 2 is a drawing prepared from one of the sections passing through the hole in the iris. The sphincter iridis muscle is intact, and peripheral to it there is a gap in the stroma of the iris (B). While a portion of the stroma of the iris has been removed, the corresponding portion of the posterior pigment epithelium has been left behind (C). This pigment layer has torn through at one point; it might easily tear at another point and then it would lie free in the anterior chamber, and readily pass into the corneal wound; this would give rise to the condition seen clinically in Case 1. Another interesting point is seen from the sections. Fig. 3 represents a section passing near to the hole in the iris; it shows that the actual line of separation has been not between stroma and pigment epithelium, but between the two layers of the pigment epithelium. These two layers of cells are only loosely attached to each other, they are frequently separated in traumatic lesions of the eye, and cysts in this situation are not uncommon.

In performing peripheral iridectomy the surgeon should endeavour to excise a piece of the whole thickness of the iris. He must not press his forceps too deeply into the iris or through the hole in the iris, or he will take vitreous, and probably find afterwards a small synechia of the vitreous. No loose piece of the posterior pigment epithelium must be left behind, or it will probably become lodged in the corneal wound, and may interfere with proper healing.

There are certain cases in which it is better to perform total rather than peripheral iridectomy. Generally, total iridectomy is preferable, where there is an increased risk of infection. If infection should take place, the more complete mydriasis obtained with atropine, when the sphincter iridis muscle is severed, is an advantage. Chronic conjunctivitis, a history suggesting infection of the lacrymal sac, or a highly pigmented iris rule out peripheral iridectomy. The increase of pigment in the iris is supposed to

be associated with an increased toughness of the iris tissue, which makes the iris less susceptible to the use of atropine. When for any reason it is considered advisable to remove the lens in a case of intumescent cataract, it is better to perform total iridectomy. The amount of cortical matter to be removed is increased, and it is more easily removed when there is a coloboma of the iris. Escape of vitreous generally takes place after the lens is expressed, so there should be as little manipulation as possible after delivery of the lens; where there is increased risk of escape of vitreous, as in high myopia, preliminary complete iridectomy is therefore more appropriate than peripheral iridectomy, which is usually done after delivery of the lens.

Apart from these exceptional cases, cataract extraction with peripheral iridectomy will largely replace simple extraction and combined extraction, since it combines the advantages of both.

The two cases recorded above are from the First Eye Clinic, General Hospital, Vienna, and I desire to thank Prof. Meller for his kindness in allowing me to make use of his material. I also thank Dr. A. Fuchs for his suggestions and encouragement.

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TREATMENT OF
SURGICAL TUBERCULOSIS IN CHILDREN
WITH SPECIAL REFERENCE TO TUBERCULOUS DISEASE OF THE SPINE.*

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UNTIL a specific remedy for surgical tuberculosis is discovered the modern conceptions of general and local treatment will prevail. The modern method of general treatment aims at increasing the patient's general resistance to infection and demands a special type of hospital, specially equipped, staffed by experts, and specially designed in suitable surroundings. Before selecting the site meteorological records should be taken of the area over a considerable period. Temperature, humidity, sunshine, rainfall, nature of subsoil, elevation, and prevailing winds should be ascertained. The temperature should be variable within limits. The humidity should be low, seldom ranging above an average of 60 per cent. for the year. The hours of sunshine should be as high as possible for the district. A site with a high rainfall and a loose open subsoil is better than a site with a moderate rainfall and a heavy clay subsoil in a sheltered position. These factors have a decided effect upon the local humidity. The site should be the highest obtainable in the neighbourhood. The institution should be erected on a southerly exposure. Humidity is extremely important, as it influences the number of hours of exposure to the sun and air that can be permitted in the year. The more a patient can be exposed in the open air to the radiant energy of the sun, the better will his powers of resistance become. A high humidity makes it impossible to expose patients for any length of time, as the heat loss from the body is too great, whilst evaporation of water from the skin is small. The metabolism of the patient in the presence of a high humidity is not increased to the same extent as when the temperature is high and the humidity is low, and there is not the same flushing of the respiratory mucous membrane. The degree of humidity is decidedly influenced by the nature of the subsoil and the prevailing winds. At Ascot we find that the humidity rises with a west wind and falls with an easterly wind. A high humidity is especially trying to patients under 7 years of age and to weak, debilitated patients who are apt to develop nephritis after persistent exposure. A sheltered site should not be chosen as the movement of air over the exposed body has an enormous effect on its radiation of heat and evaporation of moisture. This is shown in the calm suffocating days of midsummer, when the patient demands to be taken inside.

Principles of Heliotherapy.

Covered-glass verandahs should on no account be erected as they become hot-houses in the summer and reduce the air movement in winter.

Heliotherapy practised under ideal climatic conditions has a most beneficial effect upon the patient's metabolic and mental processes. It must not be forgotten that many patients soon become acclimatised to their environment; they develop a tolerance and cease to react. On the other hand, some cases may be tired out by over-stimulation, to the detriment of their general condition. Patients who rapidly develop a tolerance are those that respond and pigment readily. Their metabolic processes cease to increase, and it is of value to have a second institution under different climatic conditions to which cases of this kind may be transferred. The great value of heliotherapy is largely due to the ever-varying conditions which call for an effort of the organism and help to maintain the individual response. The patient is kept in a condition of unrest, and so long as the strain is not too great, so long will benefit result. The symptoms of fatigue are lassitude, sleeplessness, loss in weight combined with a stationary or retrogressive condition of the local lesion. Gross overdose is recognised by excessive erythema, malaise, pyrexia, and increase in pulse-rate. In children under 7 overdosage has to be carefully avoided.

Phototherapy.

The benefit of phototherapy in surgical tuberculosis is now well recognised. Its results are not so brilliant as those obtained from heliotherapy under ideal conditions, but it is a decided acquisition where heliotherapy cannot be practised for long periods of the year. Heatherwood Hospital, Ascot, is an official air station of the Air Ministry, so records of the weather conditions are kept daily. I have prepared a chart from October to March for the past five years which shows that it would not be desirable to expose children under such conditions.

Meteorological Records at Heatherwood Hospital: October to March, 1922 to 1927.

—	1922–3.	1923–4.	1924–5.	1925–6.	1926–7.
Aver. temp. °F. ..	42·8°	40·9°	43·3°	42·8°	42·5°
Aver. relative humidity.. ..	90·6%	90·2%	90·3%	89%	86·2%
Days with rain ..	87 = 47·9%	90 = 49·4%	93 = 51%	87 = 47·9%	95 = 52·2%
Days with no sun..	62 = 34%	63 = 35·2%	63 = 35·2%	53 = 29%	68 = 37·3%
Per cent. hours with sun	25%	28·5%	21%	26·6%	25%

I maintain that a properly constructed and equipped artificial light department is essential in a hospital for surgical tuberculosis. Although many of the claims made for phototherapy cannot be substantiated either by physiological or biochemical evidence, it has proved its value and is an important form of treatment in countries where the climatic conditions during the

* Based upon a paper read at the International Congress of the Institute of Public Health, Ghent, 1927.

winter months do not permit of heliotherapy or aerotherapy.

It should in no way supplant any orthopædic measures, but should be used in conjunction with and secondary to immobilisation in all cases. I consider that we are in grave danger of losing perspective in the present wave of enthusiasm for light treatment. Orthopædic treatment should undoubtedly take precedence in all cases. It is wrong to take from a patient suffering with tuberculous arthritis his mechanical apparatus for immobilising the joint, in order to expose a large area of skin surface. Immobilisation should be maintained at all times. The retentive apparatus should be designed so as to carry this into effect, whilst at the same time permitting the exposure of as much skin surface as possible. Failure to appreciate this will bring both heliotherapy and phototherapy into disrepute, and the good results which can undoubtedly be obtained in every case when the two methods are properly coördinated will not be forthcoming. Without adequate immobilisation, bone destruction will progress, deformities will arise, and abscess formation will occur.

In erecting an artificial light department, the natural Alpine sun conditions should be imitated as far as possible. This demands attention to space, ventilation, and a variety of lamps of different ampèrage and type. It must be recollected that no ray or group of rays is specific for tuberculosis. Their action upon the human body is enhanced by attention to the other factors. The general light bath in the absence of factors such as temperature, moving air, and the change of stimuli may do harm. The chief aim of phototherapy is to increase the patient's metabolism and raise the hæmobactericidal power of the blood, thereby raising the general resistance of the patient to the tuberculous infection. It has been definitely proved that artificial light per se does not raise the metabolism; it induces the production of increased tissue change by reduction and oxidation of the cellular constituents, but these are apt to stagnate unless there is movement of fresh cool air over the skin surface and into the lungs.

The Equipment of the Light Room.

We are satisfied with the window gravity system in combination with an extractor fan by which 26 changes of air can be obtained in an hour. The fan and ventilators are capable of adjustment to meet the varying external atmospheric conditions. Provision should be made to heat the department so that naked patients do not come into a cold room. The roof of the department should be arched, and have large ventilating grids at the summit. The carbon-arc lamp has proved the best source of radiation for surgical tuberculosis; it should be remembered that it burns at a temperature of 2000° to 3000° F., so that an adequate ventilating system ensures good cooling of the patient's body. It is bad practice to allow patients under treatment to perspire profusely; it is most debilitating and fatiguing, and the object of the treatment is to stimulate. Good cooling of the body with evaporation assists metabolism. No draughts should be created, as they affect the burning of the arc. We attempt to maintain the temperature of the light room between 65° and 75° F. Variation to prevent tolerance is obtained by using different ampèrage carbon arcs with differently cored carbons, alternating with the mercury-vapour type. In this way the response of the patient to the stimuli is maintained and no lack of mild erythema is seen after treatment.

According to Grotthius's law, only rays which are absorbed have any chemical action. As the penetrative power of any ray of light depends upon its angle of incidence, it is important that the surface of the patient's body should be at right angles to the direction of the rays. The rays of the carbon-arc lamp with direct current are emitted in a cone of light in a downward direction. The patient should be at a lower level than the source of light. All patients with active disease are treated in the prone position and strictly immobilised by a number of straps on a rotatory frame specially designed for the purpose. Ambulant patients sit with specially designed celluloid splints. The body is divided into four surfaces—anterior, posterior, and right and left lateral. The initial length of treatment is 30 minutes, divided equally for these four areas. The maximum length of treatment is two hours for the carbon-arc lamps. Hourly readings are also taken of the room temperature. The problem of unit of dosage has not been yet satisfactorily solved on account of the numerous physical difficulties, but I am convinced that until this is accomplished the treatment is largely empirical. Pigmentation is not looked upon as curative in itself, but merely as an indication that a patient has developed a response to the stimuli and has more readily adapted himself to the call made upon his organism. The pigmented patient is able to stand a heavier dose of radiant energy, and this is beneficial to his condition. It is a well-known physical fact that a body with a darkened surface can absorb and give out more radiant energy than one with a light surface. The same law holds good for human beings. A pigmented patient can keep his tissues in a more equable condition during treatment. I do not intend to enter into the biochemical effect of light on the human body, as the matter is by no means settled. There are many fascinating theories, but they are too conflicting and contentious for the scope of this paper. Dietary is an important factor in the general treatment. Attention has recently been focused upon the importance of giving animal fat in liberal amounts.

Local Treatment.

The local treatment of surgical tuberculosis may be briefly summed up in three main principles: (1) The site of the active focus must be immobilised. (2) Pressure or weight-bearing must be removed. (3) Any existing deformity must be improved and any other occurring in the joint affected or any other joints must be prevented. These principles must be strictly carried out until the disease has become arrested. In the early acute stage, rigid immobilisation combined with all relief from pressure is most essential in helping to limit the amount of destruction in the joint surfaces and excessive thickening of the synovial membrane.

Later, when the progress of the bone disease is stationary, the probable end-result has to be considered. There are three main types of end-result in cases of tuberculous arthritis: (1) Practically normal movement. (2) Considerable limitation of movement, due either to extensive bone destruction or abundance of fibrous tissue with greater or lesser amount of joint derangement. (3) Sound bony ankylosis. There is a stage in all cases at which the methods of treatment must be modified according to the group into which the patient will ultimately fall. It is a very interesting and often a difficult decision to make. I am firmly convinced that the worst end-results are those of Group 2 and that most of the relapses occur here. I am of the opinion that in those cases where the range of movement in the joint is likely to be less than 50 per cent. of the normal, one should aim at a sound ankylosis. In Group 1, after the acute stage has passed, the rigid immobilisation is replaced by an apparatus that allows of a certain amount of movement. Prolonged rigid immobilisation, by means of plaster-of-Paris, Thomas's spinal frame, or a Thomas abduction frame, tends to produce ankylosis. Cases, on the other hand, which are likely to fall into Groups 2 and 3 should be retained throughout on a rigid immobilising apparatus. The type of apparatus employed has a definite influence on the end-result. It should be a definite aim of the surgeon to foresee and influence the end-result of all cases of disease of a major joint. Cases that could be made to fall into Group 1 often end in Group 2 because they have been subjected to over-prolonged rigid immobilisation. Similarly, cases that could be made to fall into Group 3 end in Group 2 because they have not been subjected to sufficiently prolonged immobilisation.

Heliotherapy and artificial light tend to limit or reduce the formation of fibrous tissue. A certain degree of splintage should be maintained in all cases over long periods after the patient has left hospital. In cases of secondary infection with fistula formation in connexion with disease of the minor joints, I have had considerable success with the application of raw uncooked pork fat to the sinus. A certain degree of success has attended the use of quartz rod applicators attached to a mercury-vapour Kromayer lamp to similar sinuses.

Hyperextension for Kyphosis.

In the treatment of tuberculous disease of the spine in children there is considerable diversity of opinion on the advisability of attempting to correct the kyphotic deformity. There are three groups: (1) Those who maintain that the existing deformity should be allowed to remain and who devote all their attention towards the arrest of the disease by fusion. (2) Those who advocate masking the deformity by the creation of compensatory curves above and below the kyphosis. (3) Those who direct their attention to arresting the disease and the direct reduction of the existing kyphosis. I maintain that it is possible and desirable to adopt the third line of treatment in all children where the destruction is not too extensive and the gibbosity not too well marked. It is proved beyond argument that pressure upon a tuberculous focus is detrimental to the resolution of the disease and favourable to the continuance of the pathological process. It follows, therefore, that it is an essential of all treatment to remove this pressure. It is not sufficient merely to immobilise the patient in the prone position; it is necessary also to treat him by hyperextension of the spine. Those cases where the fusion has taken place between two or more vertebræ with a remaining well-marked kyphosis have the centre of gravity alignment of the spine in the erect posture displaced forwards, with the result that the deformity tends to increase until the child reaches adult life, unless a spinal support is worn for many years. The same applies to those cases which rely on compensatory curves. In many cases where the bodies of the vertebræ have not been entirely destroyed, as shown by a lateral skiagram of the spine, and where there still exists a nucleus of living calcified bone cells, it is better to hyperextend the spine at the seat of the disease to allow the bone cells room to multiply and calcify. If the intervertebral disc has been destroyed, fusion of the vertebræ will still take place. By gradually increasing the degree of hyperextension greater freedom is given for growth of the diseased vertebræ. There is no constriction or limitation of blood-supply to restrict the development of new osteoblasts and fibroblasts that are laid down.

The technique necessary to obtain this is very simple. At the beginning of treatment a soft wedge pillow is placed underneath the patient, with the base of the wedge under the highest point of the kyphosis. This is replaced after a few weeks, when the patient's skin can withstand the pressure, by a padded wooden block under the apex of the gibbosity. This in turn is displaced in resistant cases by blocks of increasing depths, so that the hyperextension of the spine is steadily accomplished. Children are strapped to their spinal boxes in this position. In low lumbar cases the thighs are also immobilised to prevent flexion of the spine in this area. After some 15 to 24 months in this position, the children are turned to the ventral position with the spine retained in hyperextension by means of a bed-rest for the upper part of the trunk, the gibbosity being opposite the lowest point of the trough of the mattress. During this period a certain freedom of movement is allowed, which must be in the direction of further extending the spine. This position is sought for the development of the atrophied spinal muscles by means of use and exposure to the elements. It is found extremely difficult, indeed almost impossible, to reduce a kyphosis occurring as a result of disease in the upper six dorsal vertebræ, but it should be attempted in other areas. I have measured the rate of growth that has taken place in the seat of disease compared with the normal vertebræ in the following cases. Many others could be cited.

Case 1. In 5 years ..	Normal	vertebræ have grown.	45 % = 9 % p.a.
	Diseased		100 % = 20 % ,,
,, 2. In 4 years ..	Normal		45 % = 11 % ,,
	Diseased		75 % = 19 % ,,
,, 3. In 4 years ..	Normal		45 % = 11 % ,,
	Diseased		90 % = 22·5 % ,,
,, 4. In 3 years ..	Normal		20 % = 6·7 % ,,
	Diseased		45 % = 15 % ,,

It will be seen, therefore, that the rate of growth in the diseased vertebræ is approximately twice that of the normal vertebræ.

A lateral view of the spine demonstrates the reconstruction of the bone into a quadrilateral-shaped mass instead of the wedge-shaped mass that is usually seen after other methods of treatment. The position of the gravity-centre of the spine is replaced to its proper position in the erect posture. When all activity of disease has ceased, as shown clinically and radiologically, the child is allowed to walk about in a celluloid spinal support. The cast for the celluloid cuirass is taken with the spine in hyperextension. The position of hyperextension is maintained by means of such an apparatus for a varying period up to two and three years. This demands expert after-care of the patient after he leaves the hospital. This should be carried out by the same surgeon who has supervised the in-patient treatment.

Clinical and Laboratory Notes.

ANOTHER CASE OF FOREIGN BODY INADVERTENTLY SWALLOWED.

BY W. J. E. LUPTON, O.B.E., M.B. OXF.

Dr. S. F. Allison's report in THE LANCET of Nov. 5th of the case of Foreign Body Inadvertently Swallowed recalls the following case which occurred recently in Oxford. A school-boy of 11 to 12 years of age introduced into his stomach a length of wire with sharp, penetrating ends. In Dr. Allison's patient the foreign body passed along the whole length of the alimentary canal without catching or penetrating, but in this case the wire pierced the stomach wall and protruded into the peritoneal cavity, causing death.

On Oct. 4th, 1927 (Tuesday), I was called to see a boy who had "pains in his stomach"; I saw him between 11.30 A.M. and noon. He was an orphan, and had lived since August last with an aunt and uncle; the aunt stated that he had first complained of pain on the previous Friday; the pain was then in about the middle line of the body high up in the abdomen; he had, however, attended school that day as usual. On the Saturday he still complained of pain, but located it more over to the right side; he was up and about that day and took his food well. On the Sunday, as he was no better, the aunt dosed him with salts, and the bowels acted freely; he now had pain down the right side of the abdomen, which was sharp and stabbing at times; on the Monday the pain down the right side was bad, and aggravated by movement. So far as the aunt was aware the boy had had no food outside their ordinary diet; he had not felt sick or vomited, and his appetite had been good. There was no suggestion made then or at any time, either by the boy himself or by any relative, that he had swallowed a foreign body.

On examination the temperature was 99·7° F., pulse 96, respirations 24; the tongue was thickly furred; the upper right rectus muscle was rigid, definitely on guard; there was tenderness on pressure and hyperæsthesia to pin-prick on the right side, from the costal margin downwards towards the groin, and more evident near the costal margin. There was, however, no definite tenderness, even on deep pressure, over McBurney's point or the cæcal area, while the abdomen appeared to move normally on respiration. The spleen was not palpable, and there were no physical signs of any liver or gall-bladder involvement; rotation of the hip-joint and flexion of the thigh on the abdomen elicited wincing, and examination per rectum gave some tenderness on the right side. The indication was an inflamed appendix of an aberrant—e.g., retrocæcal—type.

When seen again with Dr. H. A. Robertson between 8.30 and 9 P.M. the boy's temperature was 100·4° F., and pulse-rate 104, and he looked more definitely toxic. He was removed to the Radcliffe Infirmary and County Hospital, Oxford, and was operated on there the same night (Tuesday), within an hour or two of admission, by Mr. H. A. B. Whitelocke. The appendix was found normally placed, elongated, but not obviously inflamed; it was removed, and the incision was closed in the usual way. A right upper paramedian incision revealed a piece of wire, some 2 inches in length, protruding from the pyloric end of the stomach into a round, fibrinous, ulcerous mass of omental tissue, some 2 inches in diameter. The wire was drawn out, the area cleaned of a small quantity of pus, and a drainage-tube inserted. The boy stood the operation well and passed a good night. Next morning he was mentally alert, and stated that he had no remembrance of ever having swallowed any wire. He was, however, somewhat cyanosed and dyspnœic; this dyspnœa increased towards evening, his condition became bad, and he expired rather suddenly almost exactly 24 hours after the operation.

At the autopsy made by Dr. A. Gibson, physician and pathologist to the hospital, a small ulcer was found in the stomach wall just proximal to the pylorus; on the other side of the stomach wall was a hæmorrhagic-looking fibrinous mass, on the whole soft to the touch, situated on and in folds of the omentum. Death was apparently due to general peritonitis. From the appearance of the fibrinous mass, which was recent-looking and unorganised, Dr. Gibson suggested that the wire had been in situ for some eight or ten days before the operation. Examination of the body at the post-mortem revealed no avenue by which the wire might have found its way into the stomach other than the mouth. It apparently worked its way very gradually through the stomach wall. The wire was about the gauge of thick nasal snare wire, and was not eroded.

The relatives are unable to account for the wire; they have no wireless set in their house, nor any other apparatus involving the use of wire.

My grateful acknowledgments are due to Dr. Gibson and Mr. Whitelocke, of the Radcliffe Infirmary and County Hospital, Oxford, for their generous help with these notes and permission to record this case.

A CASE OF FIBROMA OF THE BRONCHUS.

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A FIBROMA of the bronchus leading to severe hæmoptysis is very uncommon, and we think that the description of a case may be of interest.

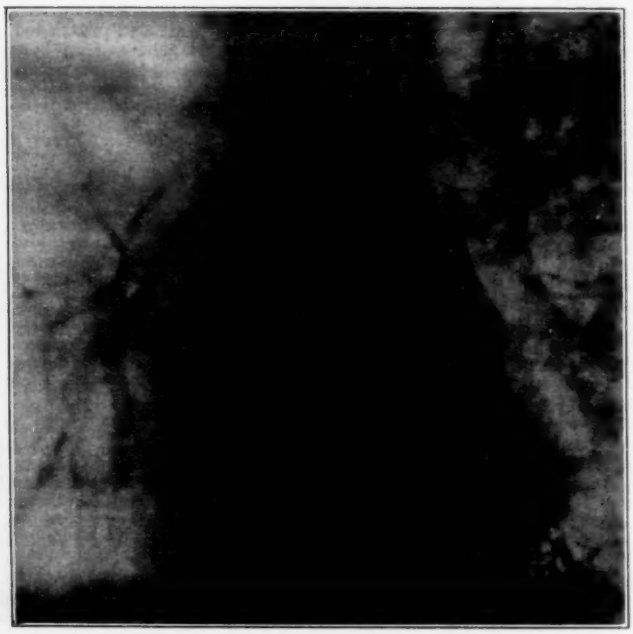
The patient, a lady of 23, had hæmoptysis in May, 1925, and again in June and October. Apart from these attacks she was perfectly well. She was sent to Midhurst Sanatorium, and there she had another large hæmoptysis in May, 1926, and was in bed for 18 weeks with practically continuous hæmoptysis.

There was very little sputum and tubercle bacilli were never found. Breath sounds were a little weak in the left middle zone, and movement was quite definitely diminished over the left lower lobe, but there was no dullness and no adventitious sounds were heard. X ray showed nothing abnormal in the chest.

It was thought that she might be a case of bronchiectasis of the type described as "forme sèche hémoptoïque," and some lipiodol was injected through the cricothyroid membrane. The X ray examination by Dr. Stanley Melville showed very clearly that a large bronchus was blocked (Fig. 1).

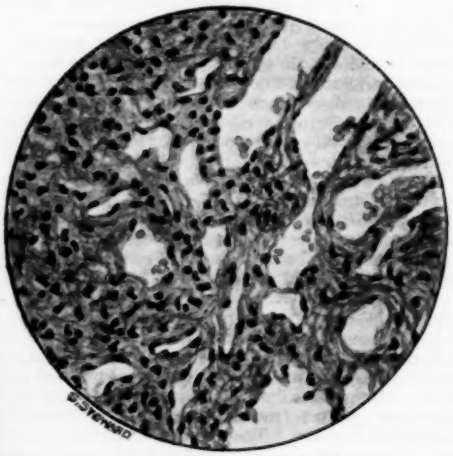
Mr. V. E. Negus then examined her with a bronchoscope, and reported that there was a smooth, solid new formation in the top of the left lower lobè bronchus, filling up the lumen. It was attached to the wall of the bronchus and bled slightly when touched. On Dec. 9th, 1926, he removed the growth through a bronchoscope by nibbling it away in about six pieces with a long, cupped forceps. The growth proved to be a fibroma, and a section is shown in Fig. 2. Subsequent examination with the bronchoscope showed the left lower lobe to be free from remains of the fibroma. The after-progress was uneventful and the recovery apparently complete.

FIG. 1.



Radiogram showing right and left bronchi and the position of the tumour.

FIG. 2.



Structure of the fibroma (about × 200).

Medical Societies.

MEDICAL SOCIETY OF LONDON.

LATE RESULTS OF OPERATION FOR CARCINOMA OF THE BREAST.

AT a meeting of this Society, held on Nov. 28th, Mr. HERBERT CARSON, the President, occupying the chair, a report was presented by the committee appointed in July, 1923, to investigate the after-results of operations for cancer of the breast. The members of the committee were Sir James Berry, Mr. Warren Low, Mr. Percy Sargent, Mr. Carson, and Mr. T. P. Legg. The scope of their inquiry was limited to the tracing and investigation of patients for whom the preliminary operation was performed not less than ten years previously. Inquiry forms were sent out to surgeons attached to various hospitals in the British Isles, and from the replies received 265 cases were analysed and tabulated by Mr. W. E. Tanner.

Summary of the Report.

Of the 265 patients: (1) 195 (73·6 per cent.) were alive and well, with no signs of recurrence, at intervals from 10 to 34 years after the primary operation. (2) Ten patients (3·8 per cent.) were alive and well at intervals of 10 to 26 years after the primary operation, but had undergone an operation for carcinoma of the other breast. In one of these more than 10 years had elapsed since the second operation; in the other nine the interval was less than 10 years. (3) Four patients (1·5 per cent.) had operations for carcinoma in other parts of the body—the rectum, pelvic colon, and cervix uteri. (4) Ten patients (3·8 per cent.) were alive and well at periods from 10 to 21 years after the primary operation, but had had one or more operations for recurrence. (5) Fifteen patients (5·7 per cent.) were alive from 10 to 24 years after the primary operation, but had evidences of recurrence. (6) Twenty-one patients (7·9 per cent.) died with recurrence more than 10 years after the primary operation, at intervals of 10 to 25 years. (7) Ten patients (3·8 per cent.) died more than 10 years after the primary operation at intervals of 10–32 years, without signs of carcinoma. These cases were carefully scrutinised to exclude carcinoma as the cause of death.

Of the 265 patients who were alive more than 10 years after the primary operation, recurrences appeared in 46 (17·4 per cent.). These 46 patients fall into two groups:—

(*a*) Ten were alive, with no signs of cancer, but had had an operation for recurrence. It is interesting to notice that these recurrences were all local, with the exception of one, in which the recurrence was in the skin over the lumbar spine. Three of these recurrences occurred within one year, three between one and two years, two between two and three years, one between five and six years, and one 14 years after the primary operation.

It would appear that operations for local recurrences may be very satisfactory, and may be followed by long periods of freedom from the disease, if not by actual cure. They are, therefore, well worth undertaking whenever it is possible to remove the recurrence freely and widely.

(*b*) Fifteen were alive with signs of recurrence of cancer, and 21 died of recurrence of cancer more than 10 years after the primary operation. The site of recurrence was as follows:—

Site of Recurrence.

Local only	16	Supraclavicular	6
Local and mediastinal	1	Mediastinal and supraclavicular	1
Local, mediastinal, and abdominal	1	In soft tissues of thigh	1
Local and spinal	1	Site unknown	1
Mediastinal	3		
Abdominal	3		36
Axillary	2		

In nine of these patients the recurrence appeared locally within 10 years of the primary operation, and in seven between 10 and 25 years. In the six patients with supraclavicular recurrence, this occurred in two patients within one year; in three the recurrence followed between 9 and 10 years, and in one patient 24 years after the primary operation. In another patient involvement of the supraclavicular glands and mediastinum occurred 10 years after the primary operation.

The question of removal of supraclavicular glands as a part of the primary operation is still undecided. Of 11 patients in whom these glands were removed 10 remained well from 11 to 14 years; the remaining one was alive with metastases in the liver and peritoneum 13 years after the primary operation. It should be noted, however, that in none of the 11 were cancerous glands present at the time of the operation above the clavicle. The case is entirely different when the supraclavicular glands are obviously infected. This infection may arise from a direct spread from the axillary glands, or it may be secondary to mediastinal infection. In the latter case operative removal would be unavailing; in the former it is doubtful if operation ever removes the whole of the disease, which may have spread into the mediastinum from these supraclavicular glands.

In one patient the local and mediastinal recurrence took place 10 years after the operation; in the patient with local, mediastinal, and abdominal recurrence the interval was 14 years; in the patient with local and spinal recurrence 12 years. In the patients with mediastinal recurrence only, in two the disease appeared in 10 years and in the other in 18 years after the operation. The abdominal recurrences took place 1, 8, and 12 years after the operation. The axillary recurrences followed 3 and 13 years, and a recurrence in the soft tissues of the thigh 11 years after the primary operation.

Summarising groups (*a*) and (*b*), in 25 patients the recurrence was local—i.e., in the area of the primary operation. In 17 of these patients the recurrence appeared within 10 years; in 6 patients it occurred between 10 and 15 years; and in 2 patients between 20 and 25 years. The details are more clearly set out in the following table:—

Time of Recurrence.

	Patients.		Patients.
0–1 year	7	10–11 years	2
1–2 years	3	11–12 ,,	5
2–3 ,,	3	12–13 ,,	1
3–4 ,,	1	13–14 ,,	3
4–5 ,,	1	17–18 ,,	1
5–6 ,,	2	21–22 ,,	1
6–7 ,,	1	23–24 ,,	1
7–8 ,,	2	24–25 ,,	1
8–9 ,,	1		
9–10 ,,	8		46
Less than 10 years	2		

Looking at this table, a striking feature is the small number—four patients (8·6 per cent.)—with recurrence after 14 years. The figures perhaps are too small to draw any wide generalisation from them, especially as in some of the years nearer the date of the primary operation only one recurrence in any year is shown in the table.

The critical times after the operation would appear to be the first three years; there were 13 patients (28 per cent.) in whom recurrences took place in these years; and between 9 and 10 years, when there were 10 patients (22 per cent.) in whom the recurrence occurred; and again between 10 and 14 years, when recurrence happened in 11 patients (24 per cent.).

The committee had hoped to draw some definite inferences with regard to prognosis from the situation of the growth in the breast. The figures and tables do not enable them to make any dogmatic statement. They think, however, the order of prognosis in a descending scale is as follows: (1) lower half of the breast; (2) outer half of the breast; (3) upper half of the breast; (4) central; and (5) inner half of the breast. Excluding central tumours, the lower and outer half of the breast is the most favourable, and the two inner quadrants the least favourable.

"We should like to reiterate the statement," the committee conclude, "that the prognosis in young patients is not so hopeless as is generally believed."

Discussion.

After Mr. T. P. LEGG had presented the report, the PRESIDENT said that the Committee regretted they had been unable to find one common causative factor in recurrences; they had been much cheered, however, by the success attending the treatment of local recurrences.

Mr. W. E. MILES, speaking from 28 years' experience of cancer of the breast, said that when he was appointed assistant surgeon at the Cancer Hospital the operation he performed was considered a bold one—viz., removal of the breast and subjacent pectoral fascia, with a thorough clearance of the axilla. In several cases small recurrences were noted in the neighbourhood of the scar, showing that removal of the skin had been inadequate. Also there was an extension along the upper border of the latissimus dorsi fairly constantly. When the more extended Halsted operation was done it was found to prevent much recurrence in the extra-thoracic lymphatic areas. Patients differed widely in the degree to which their tissues were invaded by cancer cells, and resistance by the patient played a great part in the ultimate success. Mr. Miles did not consider that the end-results were better to-day, after the routine adoption of larger operations, than in earlier days after the more restricted ones. Discussing technique, he said that occasionally metastases occurred in the supraclavicular glands, and he concluded there was a portion of tissue lying between the apex of the axilla and the supraclavicular fossa which could not be dealt with by dissection of the supraclavicular fossa alone. He had therefore conceived the idea of removing the clavicle, and had found that this gave an excellent exposure of the whole area. There was much luck in operations for cancer of the breast.

At the Cancer Hospital, Mr. Miles declared, he had never seen a case of cancer of the breast which had been cured by X rays. But it seemed reasonable that after excision of the growth, and after an interval long enough to prevent the X rays causing pain in the wound, the site of operation should be exposed to the rays so as to destroy isolated cancer cells which had not been removed. Therefore he had made a practice of sending his post-operation cases to the electrotherapeutic department, but he had been amazed to find that recurrence after use of X rays in this way was earlier and more rapid than in cases treated by surgery alone. Again, he had never seen a case of cancer of the breast which he could say had been cured by radium. In some cases a shrinkage seemed to have followed the use of radium, but afterwards the distant metastases seemed to flourish even more than they would otherwise have done. He did not think sufficient time had yet elapsed to form an opinion about the value of Mr. Sampson Handley's use of diathermy for removal of the breast. But the idea did not appeal to him, because he did not see how a momentary application of diathermy would have any effect on the deeper-seated extensions of the disease. As only 15 per cent. of the cases of mammary cancer treated at the Cancer Hospital had been alive after ten years there was not yet much to be proud of, and at present the relief of about one patient in six was all that could be hoped for.

Mr. W. SAMPSON HANDLEY considered that the Committee had performed an important public service in compiling, and especially in hall-marking, a substantial number of cases at various periods after operations for cancer of the breast, because there was deeply rooted in public and professional thought an idea that cancer was incurable, an unreasoning pessimism which was largely responsible for the difficulties of surgeons. The attitude of the public when a lump appeared in the breast, too often seemed to be: If it is not cancer there is no hurry; if it is, there is no hope. A large number of private cases of his own showed that the average period of delay before seeking advice after a swelling was noticed was six months. The report was a necessary antidote to the too prevalent pessimism about cancer, and it was to be hoped that one result was that patients would seek advice much earlier. If operation was carried out before axillary glands were affected four out of every five patients would remain well for a number of years. He thought that it was possible to tell a recurrence in the opposite breast from a new development of cancer in it. If the lump in the opposite breast was a recurrence hard glands were always present in the opposite axilla, and were evident before the lump appeared; whereas if the lump in the opposite breast was a new cancer, it would be detected before any axillary glands were palpable. He was glad the report paid attention to persistence of treatment in cases of local recurrence; too many were apt to give up when recurrence took place after the first operation. And the report disposed of the contention that permanent cure was impossible if a preliminary "incomplete" operation was performed. The discrepancies existing in the descriptions of the different people whose work entered into the report showed the need, he thought, for the formation of a standard histological collection of new growths; it also showed the necessity of maintaining a supply of competent histologists and the provision of proper dignified appointments—to attract able men—associated with histological study. He did not doubt the prophylactic value of radium in the right place at the time of the operation. For seven years he had used it along the internal mammary chain, and at the lower and inner angle of the posterior triangle. Since he did that his private results had improved 90 per cent.; indeed, it was almost unknown for a recurrence to have taken place in the regions thus protected by radium. Unlike Mr. Miles, he thought the results of operation for mammary cancer were a matter of education of the public, not of luck. Diathermy possessed great advantages, and though it could not be pretended that it could deal with deep deposits, prevented the implantation of cancer cells on the wound surface. It also minimised shock, and, on the whole, he felt it was a definite improvement on the knife. Healing was just as good.

Mr. A. J. WALTON showed tables of results in his own clinic. He regarded them as far from satisfactory and suggested that those who spoke hopefully of these cases would be more pessimistic if they had a good follow-up agency at work. He did not like to apply X rays as a routine treatment, but in attacking secondaries their effect had been marvellous, though these results might prove to be only fleeting.

Mr. JOCELYN SWAN gave figures from his practice at the Cancer Hospital. Of 478 patients with cancer of the breast 64 were alive and well ten years after operation. In his earlier work he had removed the supraclavicular glands in many cases; he did not remove the whole clavicle, but divided it, stretched the two segments apart, and took away the tissue between the axilla and the supraclavicular area. Not one of the patients thus treated had lived ten years, and he concluded that if a patient had palpable supraclavicular glands, no radical operation was practicable. Another conclusion he had formed was that in most cases in which the supraclavicular glands were involved the line of spread was not direct from the axilla to these glands, but via the internal mammary group, passing upwards into the neck. He considered that when cancer appeared also in the opposite breast it was nearly always a separate disease, not a recurrence in another site; he had seen different microscopical structures in the two breasts in such a case. He agreed with what Mr. Miles said about the results of using X rays and radium.

Dr. STANLEY WYARD expressed the hope that this discussion on the report would not see the end of it; it should be published for the information and guidance of a much wider circle.

Mr. DUNCAN FITZWILLIAMS said that when a patient came for operation for cancer of the breast the surgeon did not know whether or not it was inside

the chest. If it was inside that person would die of carcinoma, whatever operation might be performed. A feature of the report was the number of cases in which a local operation had been done, and at a later stage—sometimes as long as two years afterwards—a radical operation had been performed. Thirty years ago Sheilds had produced tables of cases extending many years back and had shown that many patients survived after only a small local operation. Some years ago Mr. Fitzwilliams had operated on a very nervous patient, and had promised her he would do only one operation; he believed her to have mastitis. He had found, however, that the breast contained a nodule of carcinoma and he had left her with much anxiety. That was four years ago and she had had nothing else done; she was still well. In operating on cases of chronic mastitis he had found 20 in which there was a carcinomatous nodule, but only three of them had been lost, one as the result of an accident. He did not believe infection took place from gland to gland, but from primary growth to successive glands. He had had breasts X rayed before operation and X rayed after operation, but he could not say he had seen good come of it, nor had he seen the bad sequelæ from the rays that some speakers referred to. He had the greatest respect for radium, but it must not be used in conjunction with the operation, as it would delay healing, and might cause a bad and stubborn burn.

Mr. V. WARREN LOW said that the committee had chosen ten years as the period after which cure seemed to have been effected because a less period was not so safe for generalisation. If the period were extended to 15 or 20 years this would bring the patients to a stage at which they were liable to die of anything, cancer being a disease of middle and late middle life.

Mr. ZACHARY COPE raised the question of how many cases would have survived without operation. Cancer was either long-lived or short-lived, as were people. When the natural incidence of death was taken into consideration the report was more favourable than it appeared to be on the surface. And as cases recurred after 20 years could it be said that cancer was ever cured?

Mr. DONALD ARMOUR said that when Mr. Miles declared that surgery had done but little for these cases he could not have sufficiently considered what these patients suffered from their disease in pre-operative days. A very important matter was the resistance of the individual to the cancer cell; another was the answer to the question "How long have you noticed a lump?" The West London Hospital had been the first to take up the Erlangen treatment for carcinoma of the breast, and the report issued, based on the work of the entire staff, had stated that no case could be written down as either improved or cured by X ray treatment.

Mr. W. E. TANNER proposed a cordial vote of thanks to the Committee for their labours, and this was carried with acclamation.

MITCHELL BANKS MEMORIAL LECTURE.

Sir BERKELEY MOYNIHAN delivered this lecture at the University of Liverpool on Nov. 24th, his subject being

The Gall-bladder and its Infections.

After speaking of the functions of the gall-bladder, the activity of its mucosa in concentrating bile, and its methods of emptying, he declared that whatever the object of these processes it was probable that the less important functions of the gall-bladder were connected with the alimentary canal. He briefly dismissed the subject of primary infections in order to devote himself fully to the origins, channels of approach, and local results of secondary infections. As an instance of infection by way of the blood, he referred to typhoid septicæmia, with its consequent submucous focus of inflammation and later involvement of the interior of the organ. As regards lymph-borne infection, he laid stress on the frequency with which a pre-existing hepatitis was found, from which apparently a lymphangitis spread to the outer layers of the gall-bladder; thence inflammatory products and destructive changes could be traced through the muscular coats into the submucous tissues. Infection of the mucosa followed, and the fully developed stage of the disease was reached. He believed that this was the commonest channel of infection. Ascending biliary infection had been derided, but he had found in three of his cases a minute piece of metallic copper, in another a tiny ball of thread, in the core of gall-stones where no direct communication existed with the bowel. This must be taken to confirm the work of C. J. Bond, of Leicester. If organisms were to make their way up from the duodenum, of necessity changes must have taken place in the reaction of this part of the alimentary canal, normally sterile. This assumption was strengthened by the discovery that 22 per cent. of patients with gall-stones had complete achlorhydria. No doubt in other instances infection descended from the liver in the bile. This, of course, presupposed the existence of a septic focus somewhere in the portal tract, often in the appendix. There was, however, another part of the portal venous system which must be kept in mind. In certain conditions of the blood the spleen discharged enormous quantities of bilirubin-calcium into the portal vein, and this seemed to be excreted in the bile; at least bilirubin calcium was found forming the core of quite a number of calculi. It might be that in the future it would be necessary to deal with the spleen in order to cut off the supply of this calculogenic material. In cases in which the trouble seemed to originate in the mucous membrane, cholesterol was deposited in enormous amounts in the mucous and submucous tissues. A polypoid condition developed, and when the pedicle ruptured, as it very easily might, a foreign body was set free, round which further cholesterol was soon deposited. He believed that calcium was deposited only after the erosion of the mucosa at the site of impaction of a stone or for other reasons, and was evidence of further infection.

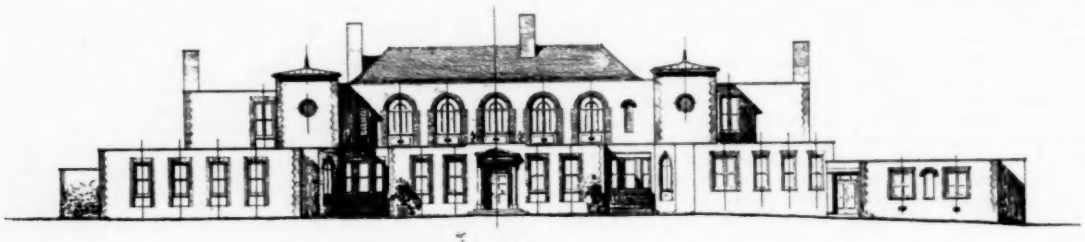
A series of microscopical slides was shown, illustrating primarily the lymphatic origin of cholecystitis secondary to hepatitis. Among important observations mentioned were the thickening of the nerve-fibres in the subserosa, suggesting the histology of "stump neuromata," and the complete absence of polymorphs among the exfoliated columnar cells in most cases of the disease. Case after case was described in which radiography of the excised gall-bladder and its contained stones had demonstrated their structure and composition. In conclusion the lecturer pointed out the value of the negative result in the Graham technique of radiographic investigation, and said that in many cases of cholecystitis the naked-eye changes in the gall-bladder were hard to appreciate. Knowledge of these facts, and a careful study of clinical histories, would, he hoped, make it possible to bring cholelithiasis into the category of preventable diseases.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this society held on Nov. 24th the following office-bearers were appointed: President, Dr. Thomas Fraser; Vice-President, Prof. Alex. Low; treasurer, Dr. Robert Richards; secretary, Dr. Harold Edgar Smith; editor of transactions, Mr. George Herbert Colt; librarian, Dr. Middleton Connon; assistant secretary, Dr. John Craig; recording secretary, Mr. Andrew Fowler. Members of Council: Dr. William Brown, Dr. John F. Christie, Dr. James Crombie, Mr. Andrew Fowler, Mr. Alexander Mitchell, Dr. Henry Peterkin, Dr. George Rose, Dr. James A. Stephen, and Dr. George Williamson.

NORTHERN INFIRMARY, INVERNESS.—Mrs. Mackintosh of Mackintosh last week cut the first sod in preparation for the extension and reconstruction of the Northern Infirmary, which is to cost £100,000. Over £70,000 has been raised in two years.

EPSOM COLLEGE SANATORIUM.

THE Sanatorium has been designed as a two-storey building of red brick, with quoins and window dressings of red brick of a richer colour. The central portion will have a sloping roof, the remainder of the building having flat roofs covered with asphalt. All the wards will face south and ample provision is made for wheeling the beds into the open air. Low-pressure central heating by means of radiators will be used throughout the building, independent boilers being provided for the domestic hot water-supply. The wards in addition to radiators will have open fireplaces.



ELEVATION TO COLLEGE ROAD

Electric lighting will be installed and cooking will be by gas. The floors of the wards will be of battleship linoleum laid on a cement screed and laid flush with a coved border and skirting in cement, while the corridor floors will be of asphalt laid in a similar manner. Gauged plaster, with a final coat of "sirapite" or similar patent plaster will be used throughout the building.

The boilers for the central heating and domestic hot water-supply and the disinfector for clothing and bedding will be placed in the basement below the kitchen wing. Food for both isolation and non-infectious wards will be supplied from the main kitchen, a diet lift being installed to the first-floor wards.

The building has its long axis running east and west with a centrally placed main entrance on the north side opening into a hall. To the right of the hall is the nurses' dining-room and beyond this the kitchen wing, with servants' hall, and quarters for a married couple to act as cook and porter.

To the left of the entrance hall is a simply equipped operation room and beyond this again the out-patient wing, approached either from the corridor or by a separate outside entrance, through which stretcher cases can be wheeled direct to the wards. Rooms for the medical officer and matron, waiting, casualty, and X ray and massage rooms, are conveniently arranged. At either end of the main corridor a 16-bed ward projects south, forming with duty room, bath-room, sanitary annexe, and nurse's bedroom a complete unit. Separating these ward units and opening direct into the main corridor are four single-bed wards and a dining- and recreation-room, and so forming three sides of a square, the fourth or south side being open. The large 16-bed ward at the east end of the corridor is an isolation ward shut off by double doors from the rest of the sanatorium and to which the only access for patients is by a separate external door. All the other wards on the ground floors with a total of 20 beds are reserved for non-infectious cases.

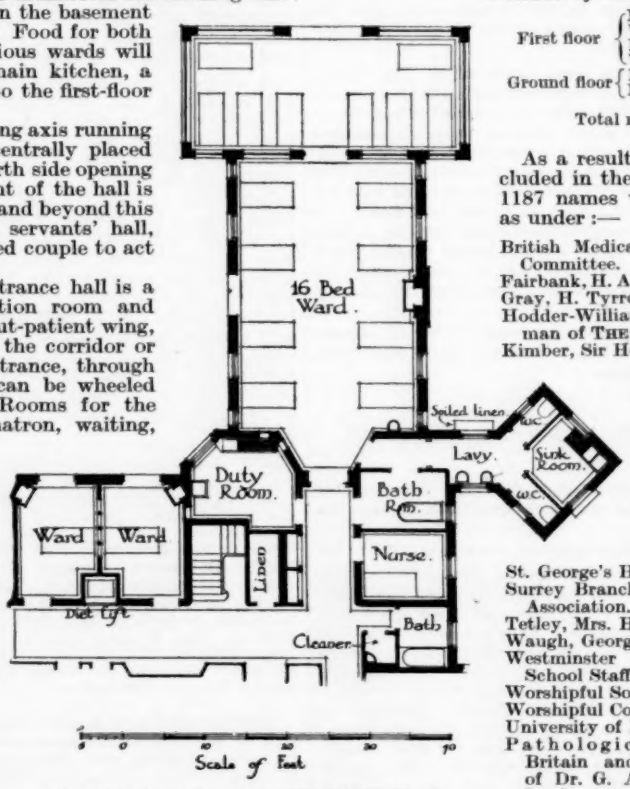
The first floor is approached by two staircases, one opening out of the ground floor corridor at the west end leads to the staff bedrooms, while the other leads from the lobby of the isolation ward to the first floor wards, consisting of one eight-bed ward, one four-bed ward, two single-bed wards, and a small dining-room, making with the 16 beds on the ground floor a total of 30 beds for infectious cases.

Schedule of Bed Accommodation.

Sanatorium	Ground floor, west wing	16	20
	" " south "	4	
Isolation	Ground floor, east wing	16	30
	First "	14	
Total number of beds			50

Schedule of Staff Accommodation.

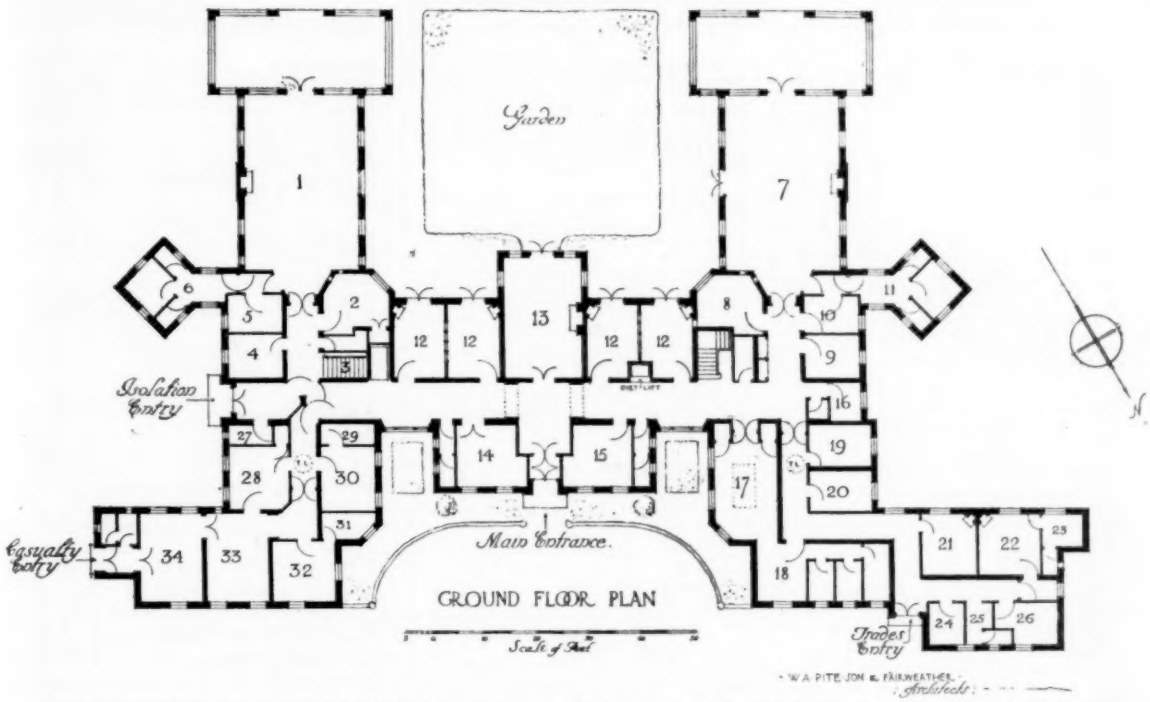
First floor	Matron	1
	West wing nurses	4
	East " "	1
	West " (domestics)	3
Ground floor	Nurses	2
	Married couples	2
Total number of beds		13



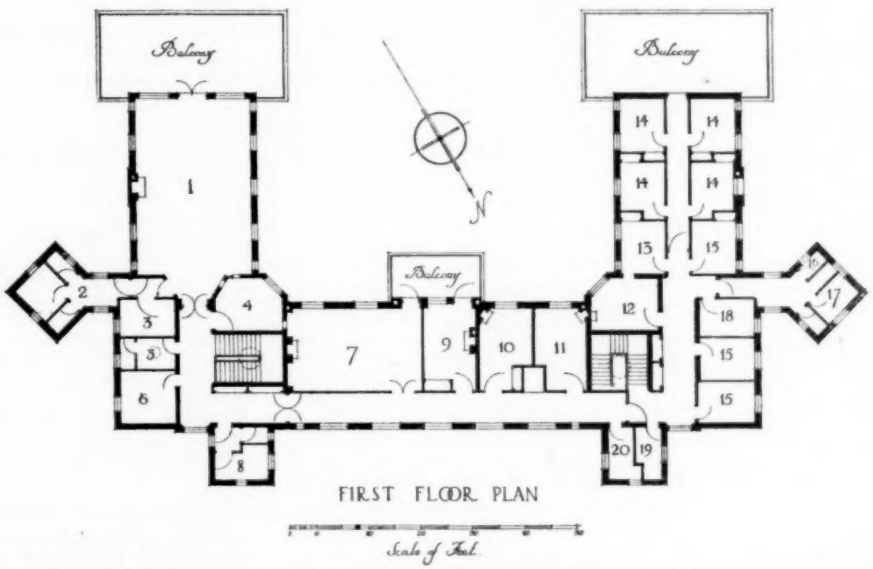
DETAILED PLAN OF A NON-INFECTIOUS WARD.

As a result of contributions included in the list on pp. 1186 and 1187 names will be given to beds as under:—

British Medical Association Charities Committee.
Fairbank, H. A. T., Esq., D.S.O., O.B.E.
Gray, H. Tyrrell, Esq.
Hodder-Williams, Sir Ernest, Chairman of THE LANCET, In Memory of.
Kimber, Sir Henry Dixon, Bart.
King's College Hospital Medical School.
THE LANCET.
Lyndon, Dr. Arnold, O.B.E.
Manchester Royal Infirmary Medical Board.
Royal College of Physicians.
Royal Free Hospital Medical Staff.
St. George's Hospital Medical School.
Surrey Branch of the British Medical Association.
Tetley, Mrs. H. G.
Waugh, George E., Esq.
Westminster Hospital and Medical School Staffs.
Worshipful Society of Apothecaries.
Worshipful Company of Mercers.
University of Leeds.
Pathological Society of Great Britain and Ireland, In Memory of Dr. G. A. Wyon, University of Leeds.



Isolation.—1. Ward and solarium (16 beds). 2. Duty room. 3. Staircase to first floor, isolation wing. 4. Nurse. 5. Bath-room. 6. Sanitary annexe (lavatory, sink-room, w.c.'s, and soiled linen).
Sanatorium.—7. Ward and solarium (16 beds). 8. Duty room. 9. Nurse. 10. Bath. 11. Sanitary annexe (lavatory, sink-room, w.c.'s, and soiled linen). 12. Single-bed wards. 13. Dining- and recreation-room. 14. Operation-room (staff lavatory adjoining). 15. Nurses' dining-room (patients' lavatory adjoining). 16. Bath for patients in single-bed wards (cleaner adjoining). 17. Kitchen. 18. Scullery with larders and store adjoining. 19. Linen- and mending-room. 20. Mattress store. 21. Staff dining-room. 22. Married couple's room. 23. Bath-room and w.c. adjoining. 24. Soiled linen. 25. Boots (w.c. adjoining). 26. Wood and coal store. 27. Cleaner for isolation section. 28. Medical officer. 29. X ray dark-room. 30. X ray room. 31. Dispensary. 32. Matron's office. 33. Casualty and dressing-room. 34. Waiting-room with lavatory adjoining.



Isolation.—1. Ward of eight beds. 2. Sanitary annexe (sink-room, w.c., lavatory, and soiled linen). 3. Bath-room. 4. Duty room. 5. Nurses' bath-room and w.c. 6. Nurses' room. 7. Ward of four beds. 8. Sink-room (patients' w.c. adjoining). 9. Single-bed ward. 10. Single-bed ward. 11. Dining-room with diet lift adjoining. *Staff.*—12. Matron's sitting-room. 13. Matron's bed-room. 14. Nurses' bed-rooms. 15. Domestics' bed-rooms. 16. Domestics' w.c. and cleaner adjoining. 17. Nurses' bath-room and w.c. adjoining. 18. Domestics' bath-room and lavatory 19. Box-room. 20. Bath-room for small wards.

LIST OF CONTRIBUTIONS.

The following is a list of contributions to the new Epsom College Sanatorium Fund:—

	£	s.	d.
Ackroyd, Dr. C. H.	1	1	0
Adams, Dr. Fred	1	1	0
Aitken, Dr. Janet	2	2	0
Aldridge, Dr. A. W.	1	1	0
Andrewes, Sir F. W.	1	1	0
Anning, Dr. J. J.	1	1	0
Apothecaries, Worshipful Society of	105	0	0
Armstrong, Dr. E.	1	1	0
Ashmore, Dr. P. W.	2	2	0
Back, Ivor, Esq.	1	1	0
Bailey, Dr. B. E. G.	1	1	0
Balmer, Dr. Ruth, O.B.E.	1	1	0
Baron, Bernhard, Esq.	100	0	0
Barrett, Lady, O.B.E.	5	0	0
Barrington-Ward, L. E., Esq.	25	0	0
Barwell, Harold S., Esq.	2	0	0
Bathurst, Dr. Lacey	1	1	0
Beattie, Prof. J. M.	2	2	0
Bedale, Dr. F. S., M.C.	1	1	0
Bedingfield, Mrs.	1	1	0
Bedson, Dr. S. P.	1	1	0
Bennett, Dr. W. E.	1	1	0
Berry, Sir James	3	3	0
Blackburn, Dr. J. T.	1	1	0
Blandy, Dr. Marjorie	1	0	0
Bleaden, Wilfred H., Esq.	1	1	0
Bolton, Dr. Elizabeth	2	2	0
Bolton, Dr. J. Shaw	1	1	0
Bonser Dr. Georgiana M.	1	1	0
Boycott, Prof. A. E.	10	10	0
Braithwaite, L. R., Esq.	5	5	0
Brander Dr. H. S.	2	2	0
Brander, Dr. W.	1	1	0
Brash, Prof. J. C., M.C.	2	2	0
Briscoe, Sir Charlton, Bart.	10	0	0
British Medical Association Charities Committee	100	0	0
Broadbent, Sir John F. H., Bart.	10	10	0
Brough, Dr. D. S., M.C.	2	2	0
Brown, Dr. Alexander	0	10	6
Browne, Dr. Ada M.	1	1	0
Browne, Dr. W. A.	0	10	6
Browning, Dr. C. H.	2	2	0
Buchanan, Dr. R. M.	1	1	0
Bulloch, Prof. W.	1	1	0
Burton, J. A. G., Esq., M.C.	2	2	0
Buttar, Dr. Charles	2	2	0
Campbell, Dr. W.	1	1	0
Cardew, Dr. Henry J.	1	1	0
Cargill, L. Vernon, Esq.	5	0	0
Carr, Dr. Walter, C.B.E.	10	10	0
Carruthers, Dr. W. D.	2	2	0
Chang, Dr. V. E.	1	1	0
Cheatle, Arthur H., Esq., C.B.E.	10	0	0
Chick, Miss H.	10	10	0
Clark, Dr. A. H.	2	2	0
Cleminson, F. J., Esq.	26	5	0
Clothworkers, Worshipful Company of	100	0	0
Colebrook, Dr. Dora C.	1	1	0
Colledge, Lionel, Esq.	5	0	0
Colquhoun, G. R. E., Esq.	1	1	0
Cox, Dr. Alfred, O.B.E.	1	0	0
Crawford, Dr. J. J.	1	1	0
Crawfurd, Dr. Raymond	20	10	0
Crofton, Dr. W. M.	3	3	0
Cruickshank, Dr. J. N., M.C.	1	1	0
Cumming, Dr. W. M.	1	1	0
Cunning, J., Esq.	10	10	0
Cyriax, Dr. Kellgren	1	10	0
Davies-Colley, Miss Eleanor	2	2	0
Dawson, Dr. D. G.	2	2	0
Dean, Prof. H. R.	25	4	0
Dearnley, Dr. Gertrude	3	3	0
Des Vœux, Dr. H. A.	2	2	0
Devitt, Dr. H. P. S.	5	5	0
Dible, Prof. J. H.	4	4	0
Dixon, Dr. W. E.	3	3	0
Dobson, Dr. J. F.	5	5	0
Douglas, Dr. J. S. C.	1	1	0
Drake, Dr. J. E.	1	1	0
Druitt, Dr. D. C.	0	10	6
Dukes, Dr. C. E., O.B.E.	1	1	0
Dunbar, Dr. J. J. M.	1	1	0
Duncan, Dr. G. M.	1	1	0
Dunlop, Dr. A. J., M.C.	1	1	0
Dunn, Dr. J. Shaw	2	2	0
Eadie, Dr. A. W.	1	1	0
East Sussex Medico-Chirurgical Society	3	3	0
Eastwood, Dr. R. G.	1	1	0
Edington, Dr. J. W.	1	1	0
Edlington, E. H., Esq.	1	1	0
Elson, Dr. C. W. H.	2	2	0
English, Sir Crisp, K.C.M.G.	5	0	0
Evans, Dr. W. H.	1	1	0
Everidge, John, Esq., O.B.E.	5	0	0
Ewart, G. A., Esq.	1	0	0
Fairbank, H. A. T., Esq., D.S.O., O.B.E.	110	0	0
Fairley, N. Hamilton, Esq.	5	5	0
Fallows, Dr. H.	2	2	0
Fawkes, Dr. Marmaduke, O.B.E.	2	0	0
Feiling, Dr. Anthony	1	1	0
Fickling, E. L. Z., Esq.	1	1	0
Firth, Dr. Douglas	1	1	0
Fishmongers, Worshipful Company of	50	0	0
Fitzgerald, Miss	1	1	0
Fleming, A., Esq.	1	1	0
Footner, G. R., Esq.	10	0	0
Forsyth, Dr. W. L.	1	1	0
Fowler, Rev. A. H.	2	2	0
Fowweather, Dr. F. S.	1	1	0
Frankau, Claude H. S., Esq., C.B.E., D.S.O.	2	2	0
French, J. Gay, Esq.	10	10	0
Frew, Dr. R. S.	5	5	0
Frost, Dr. W. Adams	1	1	0
Fry, Dr. H. J. B.	1	1	0
Gainsborough, Dr. H.	1	1	0
Galt, Dr. H. M.	1	1	0
Gard, E. L., Esq.	5	5	0
Gard, W. G. S., Esq., M.B.E.	5	5	0
Gibbes, Lewes N., Esq.	1	1	0
Gibbons, Dr. R. A.	10	0	0
Gilliatt, W., Esq.	5	0	0
Gillies, Dr. J. C.	1	1	0
Gilmour, Dr. W.	2	2	0
Gleave, Dr. H. H.	2	2	0
Gordon, Dr. J.	3	3	0
Gourlay, Dr. F.	0	10	0
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Reviews and Notices of Books.

THE COMMON DISEASES OF THE SKIN.

A Handbook for Students and Practitioners. By R. CRANSTON LOW, M.D., M.R.C.P., Lecturer on Diseases of the Skin, University of Edinburgh; and Physician to the Skin Department, Royal Infirmary. London and Edinburgh: Oliver and Boyd. 1927. Pp. 223. 14*s*.

THE scope and composition of this handbook, its terse and dogmatic style which has by no means robbed it of a certain literary excellence, and, above all, a valuable and discreet selection of life-like illustrations and textual figures and diagrams, have combined to produce the most noteworthy contribution of its kind in recent years. As might have been expected from the author of "Anaphylaxis and Sensitisation," the chapters on eczema, urticaria, and the eruptions in which sensitisation plays a part, are particularly interesting, and even the expert will find in them certain hints and explanations for which he will search many larger text-books in vain. Commendable, too, are the sections on vesicular and bullous eruptions, and the attention of the casual reader will be held by such phrases as "all pemphigus cases show bullæ, but not all bullous eruptions are pemphigus." The relationships of herpes zoster and varicella, and the ætiology of alopecia areata are boldly discussed, some original suggestions being put forward. If it should be argued that theory is out of place in a handbook, the reader will certainly benefit from the occasional lapses that make for interest and save the work from being a catalogue. The little diagrams showing the relative dermal and epidermal situations of cheloid and hypertrophic scars should help to prevent the common error of confusing these conditions.

Treatment is modern in every section and will make a general appeal on the score of simplicity. It was perhaps hardly necessary to describe the detail of radiotherapy for ringworm of the scalp, and the bulk of dermatological opinion would not agree that "if there is only one spot of disease which is near the scalp margin then that spot and a wide area around it should be X rayed." If X rays are decided upon, epilation should be total. Thallium acetate treatment, which is not even mentioned by Dr. Low, may eventually displace X ray epilation entirely. Syphilis and syphilitic eruptions, it should be noted, are not dealt with, except in so far as differential diagnosis is concerned.

The book contains 68 illustrations and 49 full-page plates, eight of them in colour. These and the printing itself are excellent, and the relatively low cost should add considerably to the many attractions of the book.

PHYSICAL SIGNS IN CLINICAL SURGERY.

By HAMILTON BAILEY, F.R.C.S. Eng., Surgeon, Dudley Road Hospital, Birmingham. Bristol: John Wright and Sons, Ltd. 1927. Pp. 217. 21*s*.

MANY small books in surgery have been written for students beginning clinical work, but none of them is quite of the same character as this. It is a treatise on examination of the patient by palpation, percussion, and other simple clinical ways on the same lines as Prof. F. Lejars's well-known book, only it is smaller and therefore better adapted for the use of junior students. It was time a book of this nature was available in English, and the author is to be congratulated upon the success with which he has carried out his task. A feature of the book is the abundance of illustrations, all of which, in addition to the excellence of reproduction, are informative. The text is usually terse and to the point, and the mnemonic for urinary complaints from "As You Like It," on p. 153—which is simply ingenious without being any aid to the memory—is the only blemish upon a very good and otherwise serious addition to English surgical literature.

THE NORMAL CHEST.

The Normal Chest of the Adult and the Child. By J. A. MYERS, Associate Professor of Medicine, University of Minnesota. In collaboration with S. MARX WHITE, R. E. SCAMMON, A. T. RASMUSSEN, C. A. STEWART, and GEORGE E. FAHR. London: Baillière, Tindall and Cox. 1927. Pp. 419. 22*s*. 6*d*.

A COURSE of study of the normal chest at Minnesota University, begun in 1921, forms the groundwork of this book. A brief account of the anatomy and physiology of the normal chest precedes a really excellent description of the physical examination, while Chapter 8 deals with the importance of systematic scrutiny of this sort. The author repeatedly emphasises the necessity of studying the various physical, X ray, and other signs which may be found in the normal chest, and his view is reasonable that much time should be spent in learning the normal breath-sounds, areas of dullness, and so forth, before the study of disease is undertaken. In the hospitals, students are apt to concentrate on disease, and there is no doubt that the teaching of the normal and the varieties of the normal is much neglected. This book therefore supplies a real want, although for the student overmuch space is given to detail; the last three chapters, for example, deal in 150 pages with the innervation of the chest, developmental anatomy, and acoustics in a way that can only be of interest for the specialist. Chapter 5, contributed by Dr. White, deals with the examination of the heart and great vessels, and Dr. Stewart describes the normal chest in infancy and childhood. Copious references are conveniently arranged at the end of the chapters.

We can thoroughly recommend this book, and shall look forward to volumes dealing with the normal in other systems of the body.

THE ALPINE CLIMATE.

Der heutige Stand der Physiologie des Höhenklimas. By Prof. Dr. LOEWY. Berlin: Julius Springer. Pp. 60.

IN this short account of the present state of alpine physiology the author correlates results obtained by many investigators, among whom he occupies a distinguished place. The first part of the book contains observations on the special factors which distinguish the climate of mountains and high valleys; the second part deals with their effects on physiological processes, especially circulation, respiration, and metabolism. Dr. Loewy analyses the action of the various elements of the solar radiation and confirms the value of natural sunlight as compared with artificial sources of light, although the more the spectrum of the latter approaches that of the sun the greater the similarity of its action. He recalls the work of Sonne, who showed that while a source of ultra-red rays (a heated metal plate) may raise rapidly the skin temperature and cause a sensation of burning, though at a depth of 2 cm. the temperature remains normal, exposure to the sun's rays for half an hour causes much less elevation of surface temperature but a marked rise in the deeper tissues. This he considers to be an important factor in raising the bactericidal power of the blood. The increase of metabolism caused by a sojourn in the mountains he attributes to several factors, but chiefly to the stimulation of the skin by the air and solar rays. Alpine therapy has been well established on an empirical basis, but Dr. Loewy's concise and lucid study is a real contribution to scientific therapy.

Das Strahlungsklima von Arosa. By P. GOETZ. Berlin: Julius Springer. Pp. 110. M.8.70.

THIS monograph contains a mass of data and some interesting speculations on the climate of the Swiss Alps as observed at Arosa. The author refers to the well-known fact that in the Alps the average temperature in winter does not fall with increasing altitude as rapidly as would be expected. An important cause of this phenomenon is the collection of cold air and mist over the lower regions with upward reflection of heat and light waves from the surface of the sea of cloud thus formed. These favourable conditions are accentuated at Arosa owing to its situation on a slope facing south. This gives a higher average winter temperature than would be found at the same altitude at the bottom of a valley. After sunset the slope loses heat by radiation, but the cold air flows down to the bottom of the valley where it forms a pool of very low temperature, its place being taken by a falling evening current of only moderate temperature. Another point of general interest which Dr. Goetz brings out is the ratio of horizontal to vertical light. The former is defined as the amount of light falling on a vertical plane facing south—e.g., a window. In winter the possible duration of sunlight per day is relatively short, but owing to the low level of the sun the horizontal component of it is so much increased that the actual amount of sunshine entering a room is as great in winter as in summer. This surprising result is also due in part to the fact that clouds are more frequent in the summer months. Thus the ratio of overcast days in January, as compared with July, is as 1 to 1·8.

SOUTH AMERICA.

By FRANKLIN H. MARTIN, C.M.G., D.Sc., M.D., LL.D., F.A.C.S. London: Fleming H. Revell Company. 1907. Pp. 435.

Dr. Franklin Martin, the well-known Director-General of the American College of Surgeons, has brought together in this book a valuable mass of information upon the Latin American countries. The notes were made or collected during visits to those countries on behalf of the American College of Surgeons, and they include experiences met with aboard the *Ebro* in a tour which included Jamaica, Panama, Peru, Chile, Argentina, Uruguay, Brazil, Ecuador, and Bolivia. Various sections are also contributed by Dr. A. J. Ochsner, who visited some of the larger cities of Mexico, and Dr. E. I. Salisbury, who records experiences in Nicaragua and Cuba. All the information is directed towards introducing to the medical profession of the rest of the world the progressive course of their sciences in Latin America. It is simply given, and profusely illustrated, while the rapid development of medicine in some of the countries visited, especially those most regarded in Europe as backward States, will come as a surprise to many readers. During Dr. Martin's visits to South America and Panama in 1921, 1923, and 1925, he personally interviewed the Presidents of Panama, Peru, Argentina, Uruguay, and Brazil in regard to establishing, presumably in Panama, a memorial to William Gorgas. This is to take the form of an Institute of Tropical and Preventive Medicine, and as President Coolidge, the honorary president of the movement, is deeply interested in the scheme, practical outcome will not be delayed.

MENTAL HANDICAPS IN ART.

By THEO. B. HYSLOP, M.D., C.M., F.R.S.E. With a foreword by ARTHUR THOMSON, Professor of Anatomy, Royal Academy. London: Baillière, Tindall and Cox. 1927. Pp. 98. 3*s.* 6*d.*

WITHIN less than 100 pages this little book conveys much æsthetic information, much useful criticism, and much sound philosophy. The exposition of the true aims and objects of art leads up to chapters dealing with the appropriate union of arts and industry and with the right appreciation and employment of the artistic faculty. Readers recognising in the author a well-known psychologist, as well as an accomplished artist, will turn naturally to the concluding sections on the influence of disease upon art and the possible connexion of toxins with artistic production. Dr. Hyslop suggests that many hysterical, hyperæsthetic, or supernorm sensory anomalies are in reality merely reversions to remote acquirements in evolution. He finds evidence that "what we have lost in instinct we have gained in reason," and appraises some of the most extraordinary developments of the special senses as "in reality not instances in advance of the evolution of those special senses, but rather examples of reversion to more primitive conditions of biological evolution." Not infrequently, he states, such abnormalities disappear when the balance of the internal secretions becomes readjusted. And on the often debated question of how far genius and madness are akin he finds that: "With the formidable array of evidence of degeneration in those who are acknowledged to be geniuses in art, the theory of genius being a disease of the nerves is apt to gain ground, but not when we take balance as the test of mental health." He warns us that degeneracy is often productive of bad art. A touch of madness may serve in some instances to raise the individual above mediocrity, and bad or offensive art is not invariably a symptom of degeneracy, for it may be the result of defective education, failures in observation and technique, or of imposture. There is much that is timely in these words.

Messrs. J. and A. Churchill inform us that the price of Rowlands and Turner's "Operations of Surgery," reviewed in THE LANCET of Sept. 17th (p. 610), is £3 10*s.* for the two volumes.

COÖRDINATION OF BRISTOL HOSPITALS.—It has been decided by the council of the Lord Mayor's Hospital Fund and the local Voluntary Hospitals Committee to appoint a Committee of Inquiry to consider the extension of accommodation, and the best means of preventing overlapping and securing coördination. There are 15 hospitals in Bristol with approximately 2100 beds, many of which are doing precisely similar work. Three of them have recently made urgent appeals for help; another is being financed to a substantial extent by the corporation, and two new ones are about to be built.

THE LANCET.

LONDON: SATURDAY, DECEMBER 3, 1927.

EPSOM COLLEGE: THE NEW SANATORIUM.

WE publish this week the results, as they at present stand, of the efforts made by the Council of Epsom College for providing the institution with a new and adequate sanatorium. The intention of the Council was made known in these columns and in many other journals in December last, and the outcome of that preliminary notice has warranted the Council in proceeding to definite plans in respect of site and construction. All who know anything of the cost per bed which has to be met in the founding of a modern medical institution will see that the substantial sum already subscribed bears small relation to the sum which will have actually to be spent, for thrice that sum is needed to warrant a start, and a total far higher will eventually be required; but it will be remembered that so far the subscriptions have been made largely in the dark, for, while the statement of the Council that the new structure was required has been accepted, no one could have known until now exactly the way in which it was proposed to spend the money obtained. We hope and believe that, with the detailed plans before them, which by the help of the accompanying descriptions are easy to follow and appreciate, a large number of our readers will resolve not only to take a share in the good work, but to urge upon their patients and friends the righteousness of doing the same. Epsom College possesses public as well as professional claims, and the list of subscriptions published to-day shows that in many directions these have been finely acknowledged.

The story of Epsom College is one of steady development. There is no question of bolstering up an institution which is not justifying its existence; rather, pecuniary support is asked because the work done has been so progressive, and because that work has never proved itself of greater public value than to-day. Three-quarters of a century ago we find that in an early reference to the foundation of the College, we prophesied its great future, and the steps in its progress, as they have been recorded regularly in our columns, have been associated with expenditure by the Council of large sums of money. Epsom has never rested on its laurels, but always, as it obtained success, has prepared for still greater success. In the extension of buildings, the provision of needed improvements for the comfort of boys and staff, the erection of laboratories, lecture rooms, common rooms, and chapel definite evidence has been supplied by the authorities of their sense of growing responsibilities. The need now is one which should have a particular appeal to medical men, for it is an anomaly that a great public school, definitely associated with medicine, should be found behindhand in any arrangements for the medical treatment of its charges. Now there is no doubt that the new sanatorium is urgently required. The number of beds projected may seem large, but this will not be the opinion of the school authorities, nor of any who have realised the difficulties which epidemic disease entails upon residential institutions like great boarding schools. The provision for sickness in all our large public schools, if the tenets of modern medicine are being observed, will always appear prodigal while there is no particular reason for the occupation of the beds; alas, it may often be found too small if the school should be unfortunately visited by an epidemic of any extent or virulence. The Council of Epsom in placing the figure of beds required at 50—30 general and 20 isolation—for an estimated total of about 400 boys, have adopted the accepted view of experts.

The cause of Epsom College has been pleaded so often and so regularly in these columns that anything said now will assuredly have been said before. This does not mean that it should not be said again. The school provides a first-class general training, with amenities for study and for sport that make it comparable to any of its similars in the country. It also supplies a magnificent opportunity for giving these advantages to the children of medical men whose expectations of educating their offspring suitably have been destroyed by death, sickness, or misfortune. The plea for money needs no further justification. It is to be hoped that the present appeal will enable the authorities of the College to proceed at once to develop their far-seeing scheme.

SURVIVAL AFTER OPERATION FOR BREAST CANCER.

THE investigation of disease by a body such as the Medical Society of London is not without precedent, although it is unusual for such a body to overcome successfully the inertia in its make-up. It is with genuine pleasure, therefore, that we welcome the report presented to the Society on Monday last upon the late results of operation for carcinoma of the breast The report is summarised on p. 1181, along with a brief account of the discussion to which it gave rise. To assess the value of an operation in relation to the survival ratio after the lapse of a considerable number of years is never easy. Yet it is obviously of immense importance to find out whether carcinoma of the breast is better treated by the simple operation of local removal or by the severe and mutilating "radical" operation, or whether it would be for the greatest good of the greatest number if no operation were performed at all. Carcinoma of the breast is one of the commonest forms of cancer, and, although it is anatomically one of the most accessible, the results of operation have not seemed to be correspondingly good. If patients are to be persuaded to present themselves for operation at an early stage, an effort must at least be made to prove that operation really is efficacious. It must not be merely a genial faith in the mind of the surgeon. By far the most extensive investigation of the problem that has ever been carried out was done by DR. JANET LANE-CLAYPON, and was published by the Ministry of Health in 1924.[1] Probably it would be impossible for a voluntary society to gather any comparable mass of data. The committee of the Medical Society of London have pointed out, however, that all investigations hitherto published have, for various good reasons, taken a three-year, or at most a five-year, survival period as the evidence of cure after operation. The committee which drew up the report have endeavoured to strike out in a new line by restricting their investigations to those patients who have survived operation for ten years or more, and of these they have gathered 265 records.

[1] Reports on Public Health and Medical Subjects, Nos. 28 and 32. H.M. Stationery Office, 2*s.* 6*d.* and 3*s.* THE LANCET, 1924, i., 1074.

This deliberate restriction of the field has inevitably resulted in limiting also the value of the investigation. Statistics based on so small a number can contribute little or nothing to the answering of the larger questions which Dr. LANE-CLAYPON has already surveyed from a basis of 20,000 records. Comparative results, in fact, cannot be obtained at all from an arbitrarily selected class such as this, since there are no other categories with which to compare them. The chief value of the work done seems, indeed, to lie in the unequivocal demonstration of the fact that so many records of ten-year survivals can be gathered and can pass the most careful scrutiny. This must necessarily bring encouragement to every woman who finds that she is a sufferer from the disease. Another fact of great interest which has been brought out is that no patient or surgeon need despair, even in the face of recurrence of the growth. No less than ten patients were alive and well from 10 to 21 years after the primary operation, although they had had one or more secondary operations for recurrence. One had even had a recurrence of the growth in the skin over the lumbar spine. The Medical Society of London may therefore be congratulated on having furnished a very real message of hope to those engaged in the war against cancer. They have also provided an example of careful investigation which, it is to be hoped, is but a first instalment and which may be emulated by other bodies of medical men.

MEDICAL CONFIDENCES.

LAST week, with the aid of sponsors from various political parties in the House of Commons, Dr. E. GRAHAM LITTLE introduced the Medical Practitioners' Communications Privilege Bill, which was read a first time. A summary of Dr. LITTLE's introductory speech was given in our Parliamentary Intelligence (p. 1161). Discussing the Bill in its issue of Nov. 19th, the *Solicitors' Journal* remarks upon the need of foreseeing that the privilege, if granted, shall not be stultified by liability to adverse comment in court when the privilege has been exercised. The point is well taken. Let us suppose that a medical witness is asked a question which involves answering whether the patient was or was not being treated for some form of venereal disease. If the witness replies, "I claim professional privilege and I decline to answer," it is easy to see that such a reply may set up an inference which is tantamount to disclosure. The doctor's professional privilege, observes the *Solicitors' Journal*, if given, should be exercised as a matter of course, and the jury should not be allowed to form an adverse opinion against the patient by reason of its exercise; indeed, it may be argued that a doctor should not waive it even at the request of the patient, for, if this became the practice, those patients who did not make such request would naturally be regarded as having good reason not to do so. It is not in all respects easy to assimilate the professional relationship of doctor and patient with that of solicitor and client. Doctors are called upon every day to give evidence on behalf of their patients—for instance, to estimate the damage caused to the victim of a street accident when some collision in traffic is alleged to be due to the defendant's negligence. If in a libel or slander action the defamation consists of a statement that the plaintiff is suffering from venereal disease, how can he disprove the statement without the evidence of his doctor? Adverse comment is not allowed if a legal adviser claims professional privilege. In Wentworth *v.* Lloyd (1864, 10 H.L.C. 589) objection was taken to the disclosure by a New South Wales solicitor of information which he had obtained in the course of his professional employment. The then Master of the Rolls was inclined to let the objection weigh against the party taking it; he regarded the refusal to allow the answer as a keeping back of evidence equivalent almost to keeping a material witness away from the court. Lord CHELMSFORD protested strongly against this view "so entirely at variance with principle and so utterly in contradiction to the well-known and invariably recognised privilege of professional confidence. . . . A person who refuses to allow his solicitor to violate the confidence of the professional relation cannot be regarded in that odious light." Lord BROUGHAM, it may be recalled, explained the rule of the solicitor's privilege by saying that the course of justice would stop if no such rule existed; "no man would dare to consult a professional adviser with a view to his defence or to the enforcement of his rights." The exclusion of such evidence, said Lord Justice BRETT, is a rule established upon grounds of public and general policy. The medical profession has to base its claim upon the same ground of public interest. It can say with truth that, in the campaign against racial diseases, early recourse to medical advice and treatment is essential, and that public policy demands that no man be discouraged from prompt and confidential consultation with a doctor. Health is hardly a less urgent national need than justice.

EPIDEMIC POLIOMYELITIS: ITS POSSIBLE TRANSMISSION BY MILK.

IN the autumn of 1926 public attention was directed to the problem of acute anterior poliomyelitis, largely because of its sudden occurrence in certain educational communities, and also because of the controversy which then arose as to the propriety of school closure with the object of controlling such outbreaks. It may be well to recapitulate briefly the facts recorded by Dr. A. M. WATTS, medical officer of health in one of the districts affected. Until Oct. 14th no notifications of poliomyelitis had been received during 1926, but on that day 13 notifications reached the health department, and others followed in rapid succession until Nov. 11th 62 authenticated cases had been notified, and information had been obtained of five other patients who sickened elsewhere but acquired the infection in the district—a total of 67 cases. The salient features of the epidemic as they presented themselves to the medical officer of health may conveniently be set out in his own words [1]:—

"(1) That the disease was limited mainly to the children attending private schools in the district, particularly boarding schools; that most of these schools were situated in the northern part of the district, and that the private schools had very little communication with each other.

"(2) That the disease started almost simultaneously in all the schools affected, and that the outbreak ceased almost entirely at the end of a fortnight.

"(3) That the disease did not spread to the adjoining districts.

"(4) That the disease did not spread in the elementary schools."

The unusual character of the epidemic could hardly be better stated; nevertheless, both the local

[1] Brit. Med. Jour., 1927, i., 114.

health department and the Ministry's officers regarded the behaviour of the disease in this case as confirming the generally accepted view that transmission occurs from case to case or through the agency of healthy carriers. The probable mode of spread is discussed at some length in the annual report for 1926 of the Chief Medical Officer of the Ministry, in which 74 cases are recorded as belonging to this epidemic. The sudden onset is tentatively explained by postulating a rise in the carrier-rate "until it reached a point at which the virus became actively virulent in a susceptible juvenile population"; and it is surmised that the sudden ending was due to the activity of the preventive measures adopted. On these points our only comment is that such success in controlling by administrative methods an outbreak which might be regarded as the boiling over of a simmering pot of carrier-infection strikes us as unusual. Since brief but adverse reference was made in that report to the theory that the infection might have been conveyed by milk, it is desirable to direct attention to an article [2] on the outbreak by Dr. W. L. AYCOCK, of Harvard, U.S.A.

The epidemiological criteria by which a milk-borne infection may be identified may briefly be stated as follows: (1) epidemiological or bacteriological evidence that the disease in question is transmissible by milk; (2) suddenness of onset; (3) a milk-supply common to a preponderating majority of the earlier cases; (4) the presence of a sufficiently large community of persons who are not consumers of the suspected milk to serve as controls; (5) the absence of any obvious link between the earlier cases other than the milk-supply; (6) an unusual age-distribution of the cases; and (7) the demonstration of a source from which the milk might have been likely to be contaminated. It is rare indeed that all these criteria can be satisfied, generally the last of them being the most difficult to meet because of the inevitable delay in prosecuting inquiries of this kind. Incidentally it is well to remember that milk epidemics are not always sudden in onset. They may also occur, and indeed are most liable to occur, when case-to-case infection is rife in any area, so that their presence is apt to be masked. The earliest milk-infected cases are rarely the first local cases of the particular disease involved. Dr. AYCOCK, who visited the district to investigate the circumstances of the outbreak, refers to previous instances of poliomyelitis which he believes to have been milk-borne. After sifting the information which he obtained, he has arrived at the conclusion that the epidemic in question was milk-borne. He has traced 75 cases (the difference between his and the Ministry's figures from those given by Dr. WATTS no doubt being due to the late discovery of some cases, a common feature of outbreaks of poliomyelitis), of whom 43 showed definite paralysis, 29 no paralysis, and 3 were doubtfully paralytic. Obviously the diagnosis in the first group must be much more certain than in the others, and special weight is therefore attached to their epidemiological history. It is shown that 35 of these obtained milk from one dealer, who may be called dealer A, while the remaining 8 were on the supply of another, dealer F, who was known to have overcome a temporary shortage of milk by purchasing about 11 gallons daily from dealer A during the period when most of the cases must have been infected. The majority of the non-paralytic cases were also among the consumers of these two supplies, but six cases of this type or of doubtful character were not definitely associated with either of them. The importance of these latter exceptions depends on several factors—viz., the order of their occurrence in the epidemic, the finality of the diagnosis, and definite establishment of the fact that they never, even casually, consumed either of the suspected milks during the period in question (for instance, in the form of ice-cream). Apparently some of these points must remain doubtful. Dr. AYCOCK's table setting out the size of the various milk rounds and their connexion with the cases is reproduced here for the sake of clarity.

Dealer.	Daily supply.	Total cases.	Paralysed.	Non-paralytic.	Unknown.
A	1080–1200 quarts.	50	35	14	1
B	1000 quarts.	1	0	1	0
C	250 "	1	0	0	1
D	150 "	1	0	1	0
E ..	Tinned milk used to considerable extent by poorer classes. 500 quarts.	1	0	1	0
F ..	(Purchased an average of 44 quarts daily from A from Sept. 23rd to Oct. 15th).	19	8	11	0
G	200 quarts.	0	0	0	0
H	Small.	0	0	0	0
I	"	0	0	0	0
Unknown	—	2	0	1	1
Total	—	75	43	29	3

It is important to note that there are serious discrepancies between the Ministry's report and Dr. AYCOCK's paper in relation to certain salient facts. The former attaches little importance to previous instances of milk-borne poliomyelitis. Further, it states that three dealers were almost entirely responsible for the milk-supply of the district, presumably the two described above as A and F, and a third whose supply was apparently regarded as negligible. If this were so, and if the Ministry's statement that the majority of persons in the area who did not contract poliomyelitis also obtained their milk from the large dealer associated with most of the cases (presumably the one described here and by Dr. AYCOCK as dealer A), then, of course, the milk connexion would be a coincidence. The table, however, which we have reproduced from Dr. AYCOCK's article, indicates that there were other important dairymen in the area, and that, even if most of them operated in a neighbouring detached district, still the immunity of the customers of dealer B, who appears to have delivered milk on a large scale in the affected district, requires to be explained. Again, Dr. AYCOCK and the Ministry both use the term "abortive cases," but the former appears to mean by this term non-paralytic cases, while the latter can hardly use the term in the same sense, since they chart only 8 cases as abortive, although one must infer from Dr. WATTS's report that 33 of the 62 notified cases were regarded locally as having had no paralytic manifestations. Some of these showed signs of encephalitis. Certain individual cases to which Dr. AYCOCK refers are of special interest. In one school where there were 28 boarders, five boys, by special arrangement, received bottled milk purchased from dealer A by dealer F, and delivered to the school by the latter. The only two cases in the school occurred among these

[2] The American Journal of Hygiene, November, 1927, p. 791.

five boys. Again, four temporary visitors to the district, all staying in different houses, but consuming dealer A's milk, sickened away from the district at or about the same time. Apart from their milk-supply no common link could be discovered, and the fact that the period during which they were all residing in the district covered three days about a fortnight earlier accords with Dr. AYCOCK'S view that the incubation period is long rather than short. On the other hand, the Ministry's report appears to accept the view that the incubation period of poliomyelitis is usually short, and their theory of case-to-case, or carrier-to-case, infection hangs partly on this view. Here, then, is another crucial question that requires settling.

There are weaknesses in Dr. AYCOCK'S chain of evidence, of which the most important is his failure to trace the infection back to any particular producer, either by means of circumstantial evidence or by the discovery of an infective case among any farm household or staff. We understand that his visit was a brief one, and it is rather unfortunate that more time was not given to this important part of the investigation. It may take weeks to elicit all the information relevant to a milk-borne epidemic. The details given of dealer A's operations are somewhat conflicting; it is suggested that his Grade A supply may have been implicated, but it is not shown that dealer F had contracted for a supply of Grade A milk from him, and it appears unlikely that dealer A would sell his best milk to a rival as ordinary commercial milk. More use might have been made of some of these facts, and such other phenomena as the complete immunity from the disease of a large school receiving milk only from dealer A, to narrow down the number of farms possibly involved. Yet those who have frequent dealings with the milk trade are well aware of the difficulty in threading its ramifications. The report of the Chief Medical Officer exhibits a striking difference in the age-distribution of the epidemic in question, as compared with other outbreaks in 1926, or, indeed, with the generality of epidemics. Only 25 per cent. of the patients were under 10 years of age, against the usual percentage of 80 or 90. It is natural to explain this by the fact that the schools affected contained children whose ages were mainly over 10, but Dr. AYCOCK claims that the proportion of cases under 10 among persons outside boarding schools was just over 50 per cent., which is still very low.

Examining Dr. AYCOCK'S views in relation to our criteria, we find his contentions to be that the epidemic tallied with a milk outbreak in its suddenness, in an incidence which was mainly on the consumers of a single milk-supply, in its unusual age-distribution, and in the somewhat equivocal and remote character of the other connexions between many of the cases occurring almost contemporaneously. The controls, according to Dr. AYCOCK, were sufficient in volume to remove any suspicion of coincidence; according to the Ministry they were not, and this is a point which should easily enough be cleared up. Whether there was an infecting case at any farm supplying the suspected milk will probably never be decided, but the fact that none was found must not be regarded as conclusive evidence against the theory of milk conveyance; failure to do so has been a common enough experience in milk-borne epidemics of all the infectious diseases. On the general question of probability it should be noted that the frequency of reputed instances of milk-borne poliomyelitis is not of a lower order than that in the commoner zymotics when allowance is made for their much greater prevalence. To sum up, we should say that Dr. AYCOCK appears to dismiss the evidence of person-to-person infection rather lightly, but has justice been done to the evidence of transmission by milk? It may be presumed that the facts with which he was dealing were equally known to, and probably in the first instance ascertained by, the public health officials who made the inquiry and who did not come to the same conclusion.

Annotations.

"Ne quid nimis."

THE WORLD INCIDENCE OF DISEASE.

MEDICINE and hygiene were alive to the advantages of international coöperation long before the League of Nations came into existence, but the Health Section is doing a great work in promoting a world view of disease and in focusing the varied activities of different countries. Pathogenic bacteria have no nationalities, and, with the world rapidly shrivelling as far as human intercourse is concerned, epidemic disease is no longer a parochial question. The Health Section receives information on the prevalence of notifiable diseases from practically all countries where such information is collected; it distributes the collected facts by weekly and monthly publication, and issues every year a general survey, the fourth of which (for 1926) has recently been received.[1] The first part reviews the main epidemic diseases, and compares their present prevalence with their past history with many maps and diagrams. Plague deaths in India fell below 50,000 for the first time since it reached Bombay in 1898, and the trend of recent years hopefully suggests that the pestilence is now really on the decline, perhaps because vaccination is received more gratefully and abundantly, possibly because man is breeding out a more resistant race. The article on small-pox gives a summary view of the curious varieties into which the condition seems to be separating out; if the case mortality in England had been what it was in India there would have been 2427 deaths instead of 18, and perhaps fewer conscientious objectors. An interesting map shows the progress of a very severe type of relapsing fever, due to the European spirochæte, across Africa from the Niger in 1921 to the Sudan in 1926. It would be interesting to know why the case mortality of typhoid in Norway and Austria is less than half what it is in England and Japan. Nashville, the most typhoid-ridden big town in the United States, will welcome the new medical school which has been established there. And in this way under each of the important diseases the report gives much information and raises many questions. The second half of the volume is taken up with a mass of statistics arranged under countries. These are doubtless of uneven value; some of them are first rate, and even the worst are better than none. And we anticipate that their incorporation and publication will do a good deal to stimulate the countries with imperfect registrations to raise their standard to the best. The international bands of sanitarians who wander through one another's countries nowadays to see how things are done will help this on very much.

DOMESTIC HEATING.

THE need for preventing the pollution of the air of our cities by smoke has been brought prominently before Londoners by the dangers and discomforts of the ground fogs of Oct. 3rd to 7th and Nov. 7th to 10th, and the pitch-darkness of Nov. 23rd. When many parts of the Home Counties were bathed in sunshine the metropolis was shrouded in gloom, and vehicular traffic rendered slow and difficult. It is true that in the London area the deposit from the air diminished from 450 tons per square mile in 1915–16 to 284 in 1921–22, but since the latter date there has been little improvement, and we still have far to go before our air is clean. The percentage of sulphates in this deposit, which amounted in 1915–16 to 17, fell to 8 in 1921–22, showing a greater reduction in sulphur than in total deposit. It is estimated that in London domestic smoke forms about two-thirds of the whole, so that a smokeless solid fuel would

[1] League of Nations Fourth Epidemiological Report of the Health Section for the year 1926. London: Constable and Co.

go some way to purify the air. In a paper which he read at the recent Public Works, Roads and Transport Congress Mr. F. W. Goodenough drew attention to the contribution which the gas industry is making to the abatement of the smoke nuisance, setting out the case for gas and coke without being unduly sanguine as to the part which will be played by low temperature coke. Large scale experiments are now being made by the gas industry in coöperation with the Government in order to produce a fuel of this kind. At present some 65,000,000 tons of coal are burned yearly in the factories of the Kingdom, and 40,000,000 tons in domestic fires, while gas-works in carbonising another 20,000,000 tons produce about 10,000,000 tons of coke. This quantity of coke would not supply our domestic needs for, as Mr. Goodenough points out, the whole output may soon be absorbed by the increasing use of coke boilers. In order to produce enough low temperature coke to satisfy domestic requirements at least 50,000,000 tons of coal per year would be needed. Each ton would produce at the same time about 3500 cubic feet of rich gas having a calorific value of 800 to 1000 units, quite apart from other valuable by-products. A profitable outlet for these would have to be found. The 5,000,000 tons of anthracite mined per year in this country are palpably insufficient to solve the smoke problem; and the present type of slow combustion stove in which it is burned does not provide the ventilation which is one of the essential functions of a domestic fire. Electricity is hardly in the running for domestic heating in a country which has no great waterfalls or other supplies of cheap natural energy. To generate electricity by burning coal implies an initial heat loss of about 80 per cent., while the loss in producing gas and coke is of the order of 25 per cent. Thus when heat is required it is obviously uneconomical of fuel to obtain it by electricity. What, then, is the solution of the domestic smoke problem? It would seem unlikely that low temperature, or any form of coke, can be the way out, if only because the making of coke implies also making gas. The combination of gas with some form of coke for domestic cooking and heating appears, then, to give most promise of success.

INSULIN AND TUBERCULOSIS.

IT is generally recognised that the introduction of insulin has offered a new hope to the diabetic patient who at the same time suffers from active tuberculosis, and it was inevitable, therefore, that insulin treatment should, sooner or later, be tried for the non-diabetic phthisic. The few records so far published have shown varying results, some favourable and others unfavourable, especially as regards temperature reactions. Dr. J. Morin and Dr. F. Bouessée, of Leysin, have recently recorded a series [1] of favourable results with this group of non-diabetic phthisics. The injections of insulin were given subcutaneously half an hour before the meal. For the first two days 5 units were given, then two injections of 5 units were administered for two days, and afterwards the quantity was increased until 30 units were given in two doses daily. The duration of the treatment was about one month. Occasionally the limit of 30 units in a day was passed, but as a general rule this was regarded as a suitable maximum. No serious effects from hyperglycæmia were observed; transient disturbance three or four hours after an injection reacted immediately to the ingestion of carbohydrates. No local reactions of importance were noted, and there were no urticarial eruptions such as have been recorded by some observers. Furthermore, the patients, who were all afebrile at the beginning of the treatment, developed no rises of temperature as a result of the injections. In most of the cases appetite improved and the weight markedly increased, as is well shown by the charts accompanying the report. Cases in which the urinary excretion was measured showed no marked alteration and no œdema of tissues was observed. Eight cases in all are recorded, and Dr. Morin and Dr. Bouessée are satisfied from these preliminary tests that no harm results but that weight may be increased and some patients permanently benefited. It would be helpful to study a series of cases with metabolic tests carefully controlling the treatment at all stages.

[1] Annales de Médecine, October, 1927.

OPTIC NEURITIS.

Two different abnormal states of the optic disc have in the past been known as optic neuritis. One of them is a swelling which is often very marked and can be more or less accurately measured by the ophthalmoscope in terms of dioptres; it completely obliterates the margin of the disc and the veins are very much swollen. This condition may exist without any loss of visual acuity and is not really an inflammation of the nerve at all but an œdema caused by a pathological increase of intracranial pressure. The sign exists in both eyes, though it may be more advanced in one than the other. It is always of grave import, being one of the typical signs of intracranial tumour. So far as sight is concerned the condition, if unrelieved, passes sooner or later into optic atrophy, involving blindness, partial or complete. If, however, the intracranial pressure is relieved by a timely trephining operation the swelling of the disc in a typical case subsides and optic atrophy is averted. This important fact will always be associated with the pioneer work of the late Sir Victor Horsley. Since there is no inflammation of the nerve in these cases, the term "optic neuritis" has been considered inappropriate and the terms "choked disc" or "papillœdema" are now generally employed. True cases of optic neuritis are those in which there is actual inflammation of the optic nerve spreading either from the sheath or from an infective focus in the substance of the nerve. Toxins circulating in the blood due to general disease or to syphilis appear to be the most usual cause. In these cases the ophthalmoscopic picture is much less striking than in cases of choked disc. On the other hand, the loss of visual acuity occurs much earlier. The obliteration of the disc margin is the earliest and the most valuable ophthalmoscopic sign. The swelling of the disc and engorgement of the veins may be slight. When a toxin is the cause the condition is usually bilateral. When there is a localised inflammatory focus one eye only may be affected. Sometimes the retina is involved, as in albuminuric retinitis, and the case is one of "neuroretinitis." In other patients, where the focus of inflammation is some way behind the disc, the disc itself may appear normal and the case is said to be one of "retro-ocular" or "retrobulbar" neuritis. Since it is the macular fibres which are chiefly affected, the typical symptom of retro-ocular neuritis is a central scotoma. It is still uncertain whether ordinary tobacco amblyopia is a true retro-ocular neuritis affecting both nerves or whether the primary lesion is in the ganglion cells of the retinæ with secondary changes in the nerves. It is certain that one of the most common causes of retrobulbar neuritis is disseminated sclerosis. The causation of a great many cases remains a mystery, and although it has been usual to suspect infection from one of the nasal sinuses, especially since Onodi published his work demonstrating the thinness of the partition separating the optic nerve from the sphenoidal and ethmoidal sinuses, the actual number of cases where this causation may be considered to have been proved is relatively very small. The fact is that acute retrobulbar neuritis generally tends to get well in a few weeks without any treatment at all, and credit for the recovery is easily misplaced. This applies even to cases which are caused by disseminated sclerosis, although here the retro-ocular neuritis should be regarded as a danger-signal for what is in store in future. What has already been stated is common knowledge to the physician and ophthalmic surgeon. How far does it require modifi-

cation in the light of recent research? First, as to nomenclature. Though increased intracranial pressure is the most common, it appears to be not the sole cause of choked disc, and in order to have a name applicable to those cases alone which are due to increased pressure, Dr. H. M. Traquair, of Edinburgh, has suggested the term "plerocephalic œdema." We are inclined to agree with Sir John Parsons who, at the Edinburgh meeting of the British Medical Association,[1] as one largely responsible for the introduction of the term "papillœdema," deprecated the further complication of nomenclature proposed. Speaking at the same meeting, Dr. H. Ronne, of Copenhagen, stated that in his opinion it is impossible to draw a hard-and-fast line between papillary œdema and papillary inflammation. We must be satisfied, he says, in restricting ourselves to the knowledge that the high grades of papillary œdema are most frequently caused by increased intracranial pressure. He further called attention to a peculiar condition which is called choked disc with sudden initial blindness. This, he says, may be the consequence of disease in the trunk of the optic nerve and therefore without analogy with the choked disc of cerebral tumour. In such cases a wrong diagnosis has often been made. To avoid it a careful examination of the visual fields is of special importance. Similarly, no hard-and-fast line can be drawn between cases of true optic neuritis with visible changes at the disc and those of retrobulbar neuritis when the ophthalmoscopic appearance of the disc is normal. With regard to the connexion between this disease and the nasal sinuses, Dr. J. V. Paterson, after remarking on the tendency to spontaneous cure, went on: "I do not know any kind of cases in the whole range of medicine where one is more likely to be deceived with regard to the efficacy of operative measures than these cases of acute retrobulbar neuritis in young adults." Speaking at the same meeting, Dr. A. J. Ballantyne said: "Very few of my cases of retrobulbar neuritis, whether acute or chronic, have shown evidence of nasal sinus disease, and in the absence of clinical signs operation has not been recommended." Dr. de Schweinitz, on the other hand, was convinced that infective spheno-ethmoidal disease was a definite ætiological factor in many cases of retro-ocular neuritis. Onodi himself found nine cases of optic neuritis definitely resulting from nasal sinus suppuration, but in these cases the disease was extensive and destructive.[2]

SCARLATINAL INFECTION.

RETURN cases of scarlet fever have always been a bugbear to those who have had to manage isolation hospitals. It is usual to define as a "return" case an attack of scarlet fever which occurs in a family within 28 days of the return home from hospital of a recovered scarlet fever patient. The definition is, of course, quite arbitrary as the so-called return case may be a secondary case which has arisen in the family from quite another source of infection. In the past more or less elaborate systems have been devised, by means of discharging blocks with bathrooms and subsequent detention in a ward free from infection, to reduce the number of return cases to a minimum. Desquamation is now regarded as of no consequence. Complete absence of nasal or aural discharge has always been considered important. More recently, with the assistance of surgeons, attention has been given to the removal of diseased tonsils and adenoids prior to discharge from hospital.

With all these precautions, however, cases continue to occur where the patient leaving hospital appears to act as an infector of others. In the Hull report for 1926 Dr. W. Allen Daley describes the experiences of a family consisting of the parents, three girls, and three boys. Two of the sisters, aged 15 and 3 respectively, were admitted to hospital for scarlet fever, one on the second day of the illness, and the other, desquamating, on the thirteenth day of the illness. Both illnesses ran a normal course, and the two sisters were discharged after 32 days in hospital. Five days after their return home the third sister, aged 9, developed scarlet fever. She was removed to hospital at once and remained there 29 days. Twenty-four days after her return home, a brother, aged 6, contracted scarlet fever. He was nursed at home, while his two brothers were sent to stay with relations. This illness ran a normal course, and in due time the house was disinfected and his two brothers returned home. Twenty-seven days after disinfection a brother, aged 13, developed scarlet fever, went to hospital, remained there 35 days, and returned home. The remaining child, a boy, aged 11, succumbed to the disease 16 days after the return home of the second brother, and was taken to hospital. Why did not these susceptible children take the disease from the first two cases, instead of having it in serial numbers over a period of about 250 days? All the six illnesses ran an uncomplicated course and there were no discharging noses or ears to make the spread of infection likely. All experienced medical officers of health can cite somewhat similar occurrences, and it seems probable that immunity from scarlet fever must vary from time to time in a more capricious way than immunity to diphtheria as shown by the Schick test. Possibly those who have had experience of the Dick test may have come across evidence of day-to-day variation in scarlet fever immunity.

The same apparently capricious behaviour of the scarlet fever infection is observed in its relation to milk. On the one hand, we have cases occurring in the families of dairy farmers and dairymen, frequently in circumstances which would seem to make transmission of the infection to the milk a certainty. Yet nothing happens. On the other hand, when a milk-borne epidemic actually does occur, it is, as often as not, extremely difficult to explain how or why the milk became infected. Milk, when infected, is a very potent medium for transmitting the infection back to human beings. As proof thereof it has been noted that in milk-borne epidemics the incubation period is shortened and persons, immunised by a first attack, frequently contract second or abortive attacks with pronounced throat symptoms. Are these phenomena to be explained by the increase of dose caused by the growth of the virus in the milk, or by the fact that the irrigation of the tonsils and throat with infected milk is a peculiarly effective method of inoculation? Until we know more about the causal micro-organism we are confronted by several unknown quantities—the amount of the dose, the variability of the immunity, and the existence of carriers.

[1] Reported in THE LANCET Sept. 17th, p. 601. For original papers by Paterson, Ronne, and Ballantyne see Brit. Med. Jour., Nov. 12th.
[2] Quoted by N. H. Pike, Irish Journal of Medical Science, October, 1927.

TREATMENT OF RICKETS IN MONKEYS.

IT has long been known that monkeys in captivity in the temperate regions suffer from rickets and are variably susceptible according to age and species. Some succumb in a space of months, others survive for years; but even the latter scarcely ever breed and still more rarely (perhaps never) rear their young. Efforts to combat the disease by dietetic means have not proved very satisfactory owing to the disinclination which monkeys have for consuming fats on a sufficient scale. Recent work by E. M. Hume and H. Henderson Smith [1] shows that when a monkey kept under ordinary menagerie conditions has developed severe rickets, easily demonstrable by radiography, it can be cured by daily exposures, lasting 10–20 minutes, to a mercury-vapour quartz lamp. The same workers, together with N. S. Lucas,[2] have also shown that the mercury-vapour quartz lamp can

[1] E. M. Hume and H. H. Smith: Veterinary Journal, 1927, lxxxiii., 368.
[2] N. S. Lucas, E. M. Hume, and H. H. Smith: Proc. Zoo. Soc., Part 2, 1927, p. 447.

be used prophylactically to keep marmosets in health and fine breeding condition. These little creatures are highly susceptible to rickets, and though there are a few scattered records of young being born in this country, they do not seem ever to have survived. Under the influence of the mercury-vapour quartz lamp, however, young have been born at the Lister Institute and have thriven. The possibility of breeding monkeys in captivity offers new opportunities to workers in psychological laboratories, doing the type of work, for instance, which has been done by Prof. R. M. Yerkes at Yale. A knowledge of the means to keep them in health is of importance to all laboratory workers who use monkeys, as well as to those who are in charge of menageries and to those who keep monkeys as pets.

THE ACTION OF LIPIODOL.

IODISED oil, in one form or another, has now become a valuable instrument in the technique of radiological examination of the lung. Whilst firmly convinced of its great value as a diagnostic procedure, Dr. E. Archibald (Montreal) and Dr. A. Lincoln Brown (San Francisco) have recently published [1] a careful review of the subject, in which they call attention to the possible dangers of its use when introduced into the tracheo-bronchial system. They have concentrated their attention chiefly on the particular preparation sold under the registered name lipiodol, which is an iodised vegetable oil containing 40 per cent. of iodine. After injection into the tracheo-bronchial system a large percentage of the oil is eliminated by expectoration or swallowing; this the authors consider of no interest. A proportion of the oil is, however, absorbed, and in certain cases has been found to cause symptoms of iodism. Most of these cases appear to have shown only mild symptoms of iodism, but a few more serious complications have arisen. In experiments on cats the authors found the oil present in a minute state of subdivision in many of the tissue elements that make up the pulmonary structure—even in the cartilage of the smaller bronchi. These facts were demonstrated by the use of Scharlach R. in sections. The authors believe that this absorption—which may be in some way associated with an internal digestive power possessed by the lung—is likely to be delayed in an extensively diseased lung, especially if cavities are present, and may even so fill alveoli as to interfere with oxygen absorption. Much apparently depends on the iodine tolerance of the patient, which, fortunately, in most individuals is high. The authors state, on the authority of Forestier, that after an intratracheal injection of 20 c.cm. of lipiodol, the daily elimination of the iodine during the first two weeks is 0·02 g. They have noted cases in which the lipiodol shadow showed in the radiogram for 15 months, though in the majority of cases the shadows only persist for a few weeks. With regard to the technique of administration, the risks of local sepsis, a false passage and laryngeal œdema are discussed, and the suggestion is made that for the first injection, at least, the bronchoscopic method should be used, in order to obtain a satisfactory and direct visual examination of the injected field. The effect of the cough reflex in disseminating the oil into distant parts of the lung is also emphasised. Cough reflexes have not been noted in ramifications of bronchi smaller than those of the second order. It has been stated that, inasmuch as the normal tracheo-bronchial tree can hold 5000 c.cm. of air, 40 c.cm. of injected lipiodol can be regarded as a small amount, but it must be remembered that in disease this tracheo-bronchial capacity may be diminished by as much as 50 per cent. Moreover, since lipiodol is known to float on the top of sputum, the blocking of a small bronchus may occur, especially at points where the cough reflex is not excited.

As to the therapeutic effect of lipiodol on the tuberculous process the authors are in doubt, but consider that in certain cases and in properly regulated doses lipiodol may have a similar effect to that of tuberculin. Recent work on this subject by F. G. Chandler and S. R. Gloyne [2] would seem to show that the actual bactericidal effect of lipiodol on *B. tuberculosis* in vitro is not very great, and that there is no lipolytic action when this substance is injected into the pleural sac of normal rabbits, and no toxic effects on distant tissues. These workers suggest, in fact, that from a purely therapeutic point of view the effect of lipiodol is probably mechanical. In summarising the dangers which may result from the injection of lipiodol, Archibald and Brown record a small number of unfavourable cases which they have collected from the literature, including one case where subacute sepsis was considered to be due to lipiodol injection five days previously. Without any desire to minimise the undoubted value of lipiodol as a diagnostic aid in pulmonary disease, these authors believe that there are definite potential risks which should be weighed before patients are subjected to its indiscriminate use. Probably in the hands of skilled operators these risks are not great, but the method is obviously one which cannot be carried out without proper safeguards and training in acquiring the technique. In a later communication [3] the same authors give the results of an experimental investigation with lipiodol. They injected cats intratracheally, and found that cough alone increased the rapidity and degree of penetration of lipiodol and lipiodol-sputum emulsion, and that this action was still more definitely marked with tracheal compression. In fact, an actual in-driving effect on the lipiodol was caused by cough. No similar in-driving effect was observed with thick, tenacious sputum. Apparently, whereas coughs may tend to drive a fluid substance, such as lipiodol or lipiodol-sputum emulsion, further down the bronchial tree, it has not the same effect in breaking up and forcing thick, tenacious sputum into the finer ramifications.

[1] Jour. Amer. Med. Assoc., 1927, lxxxviii., 1310.

MEDICAL AMERICANA.

AN Exhibition of Early and Later Medical Americana was held in the library of the New York Academy of Medicine, when the new building of that institution was opened last month. The Catalogue contains 95 items, all of which are of interest to students of the history of disease whether they be Americans or no. The first medical publication in the United States, of which a photostatic reproduction is shown, was a broadside printed at Boston in 1677, entitled "A Brief Rule to Guide the Common-People of New England how to order themselves and theirs in the Small Pocks, or Measles." The author was Thomas Thacher, pastor of the Old South Church, in Boston, who had picked up a smattering of medicine sufficient in his day for the needs of his flock. He gives sensible directions for the treatment of the sick, but is, of course, ignorant of inoculation. It was not till 1721 that Benjamin Colman, also a preacher, published at Boston "Some Observations on the New Method of receiving the Small-Pox by Ingrafting or Inoculating," a method of which he was the advocate. Lady Mary Wortley Montagu had only recently described inoculation as practised in Constantinople. In 1721, probably after Colman's publication had appeared, Increase Mather, at one time President of Harvard, republished "Some further Account from London of the Small-Pox Inoculated." The title of the second edition of his pamphlet, reproduced in the Catalogue, refers to a "late Scandalous Pamphlet entituled Inoculation of the Small Pox as practis'd in Boston, &c.," and we are left in doubt as to what attitude the father took towards the innovation of his son, Cotton Mather, who had brought the knowledge of the treatment to New England, where it had been at once acted upon by Zabdiel Boylston. On June 26th, 1721, Boylston inoculated his six-year-old boy, and thus began a controversy which raged for many years in America,

[2] Tubercle, 1927, viii., 563.
[3] Amer. Rev. of Tub., 1927, xvi., 111.

many pious Puritans and witch-burners holding that the practice was contrary to the will of God, just as, at a later date, their pietistical successors opposed anæsthesia. Vaccination was another much-canvassed method, and, as several book-titles show, cow-pox figured in America as kine-pox. Benjamin Waterhouse's work on "A Prospect of Exterminating the Small-Pox," in two parts, is exhibited, the first part having appeared at Boston as early as the year 1800.

Of American medical journals the first was the *Medical Repository*, which ran into 23 volumes from 1797–1824. The earliest one in Canada, the *Journal de Médecine de Quebec*, was first published as a quarterly in January, 1826, but met its end in little more than a year. The hospital reports came from the Hôtel Dieu, the oldest Canadian hospital, founded in 1639. Benjamin Franklin's letter on catheters and letters to Pringle and George Wheatley are on exhibition, the first-named being the original autograph presented to the Academy by Fessenden Nott Otis. "Medicine owes a great deal to this remarkable man," says the Catalogue, for though Franklin was not a doctor he was elected to several medical societies. He wrote amusing trifles for his friends, and a facsimile is shown of his "Dialogue entre le Goutte et M. F. à Minuit le 22 Octobre, 1780." William Beaumont, though an English F.R.C.S., was American born and his classic work on the digestion was published at Plattsburgh in 1833 under the title "Experiments and Observations on the Gastric Juice and the Physiology of Digestion." This was the record of his experiments on the famous Alexis St. Martin, who had a fistula of the stomach through which Beaumont was able to observe the movements of the gastric juice. The work here shown is the property of the Academy. Oliver Wendell Holmes, the poet and wit, made one great contribution to medicine when in 1843 he read his paper on the Contagiousness of Puerperal Fever before the Boston Society for Medical Improvement. The famous paper appears as Art. V. in the *New England Quarterly Journal of Medicine and Surgery*, which lasted for about a year in 1842–43. Next to it we note Ephraim McDowell's "Three Cases of Extirpation of Diseased Ovaria." This appeared in the *Eclectic Repertory* in 1847, but the first operation was performed in 1809. The pioneer writings on Anæsthesia by Crawford Long, Bigelow, and Morton will receive close attention. We cannot write here in detail of the more recent works or articles by pioneer medical men, and it must suffice to mention such names as Halsted, Corning, Marion Sims, Austin Flint, Stough Bobbs, Huntington, and Weir Mitchell. All these are represented in an exhibition whose promoters, including the Committee on Exhibits and the learned librarian, Dr. Archibald Muloch, deserve the heartiest congratulations on their achievement.

A CONFERENCE ON ACTINOTHERAPY.

AN international exhibition and conference, organised by the *British Journal of Actinotherapy*, is to be held at the Central Hall, Westminster, from Tuesday to Friday, Dec. 13th to 16th. The conference is divided into three sections, the first of which (Tues. and Wed.) will discuss light and heat in medicine and surgery; the second (Thurs.), scientific research in relation to actinotherapy; and the third (Fri.), recent advances in optics. Each section will be opened by papers from distinguished workers at home or abroad, to be followed by general discussion. At the first section, which touches medical practice most closely, Sir Henry Gauvain will preside, and papers will be read by Dr. Franz Nagelschmidt (Berlin), Dr. L. G. Dufestel and Dr. Jean Saidman (Paris), Dr. A. Eidinow, Dr. F. Hernaman-Johnson, and Dr. E. P. Cumberbatch (London). On the Wednesday evening Dr. H. Stanley Banks will give an address on the place of actinotherapy in public health work. At the second section, Prof. E. C. C. Baly will preside and papers will be read by Dr. Leonard Hill, Mr. I. M. Heilbron, D.Sc., and Dr. F. H. Humphris. The exhibition, to be held concurrently with the conference, will be opened on Tuesday at 2.30 P.M. by Sir Alfred Mond; apparatus and accessories of all kinds for ultra-violet and kindred therapy will there be shown, some for the first time. Demonstrations will be given, amongst them one by the staff of Westfield College, London, on the effect of ultra-violet radiation on plants. A concession for reduced rates on the railways has been obtained. Invitation tickets may be obtained from the office of the Journal, at 17, Featherstone Buildings, London, W.C. 1.

PHYSIOLOGY AT THE ROYAL SOCIETY.

IN his opening address at the anniversary meeting of the Royal Society on Nov. 30th, the President, Sir Ernest Rutherford, spoke of contributions made to science by physiologists living and deceased. In the person of Ernest H. Starling the Society had lost a stalwart champion of the claims of research, and one who had found in physiology the central interest and enthusiasm of his life. Starling's aim had been, as he himself put it, "to attain to a comprehension of the wisdom of the body and the understanding of the heart and thereby to the mastery of disease and pain." Most famous of his joint researches with Bayliss was the work on the stimulation of pancreatic secretion following the discharge of stomach contents into the small intestine, which led to the discovery of secretin and the conception of chemical messengers or hormones. Turning to living physiologists, Sir E. Rutherford spoke of the award of the Copley Medal to Sir Charles Sherrington, whose work, embodied in some 200 original memoirs, had revealed a fundamental plan and orderly sequence in the reflex actions of the body. He had also given impulse to the original and far-reaching investigations of the late Rudolf Magnus, of Utrecht, on animal posture. Sherrington's work, having provided the clue to the understanding of many of the motor symptoms of nervous disease, held out promise that even the higher functions of the central nervous system would not remain permanently beyond the reach of man's experimental inquiry. Sir Thomas Lewis, to whom a Royal Medal had been awarded, had taken a leading part in the remarkable growth of our knowledge of the mammalian heart-beat. Until he began his work nothing was known for certain as to the relation of anatomical structure in the heart to the origin and propagation of the beat. In this special field of physiology and pathology Lewis's researches had replaced scattered observations by coherent and established theory. The President also alluded to the award of the Buchanan Medal to Dr. Major Greenwood, whom he described as almost unique in the possession of both the medical knowledge and mathematical ability essential to the elucidation of many problems in physiology and epidemiology.

THE CONWAY EVANS PRIZE.

The first award of the Conway Evans prize has been made to Sir Charles Sherrington. It may be recalled that when in 1925 the residuary trust funds of the estate of the late Dr. Conway Evans, medical officer for the Strand district, who died in 1892, were transferred to the President of the Royal Society and the President of the Royal College of Physicians of London and their successors in office, the terms of the bequest directed them to apply the proceeds "in giving rewards to such person or persons who in the opinion of the Presidents have rendered or shall from time to time render some valuable contribution or addition to science as it exists at the time of my death either by invention, discovery, or otherwise." In accordance with this direction the Presidents have awarded 500 guineas to Sir Charles Sherrington on the ground that his work on the physiology of the nervous system, and chiefly on the physiology of the brain and spinal cord of the higher animals, has brought many complex nervous functions for the first time within the range of investigation and analysis. His discoveries, they say, have had a profound influence throughout the world

on the experimental sciences of physiology and psychology, and have thrown a flood of new light on many of the symptoms of nervous disease.

Dr. Sydney Smith, principal medico-legal expert to the Egyptian Government, and professor of forensic medicine in the School of Medicine at Cairo, has been elected to the chair of forensic medicine in the University of Edinburgh, left vacant by the death of Prof. Harvey Littlejohn.

THE next social evening of the Royal Society of Medicine will be held on Wednesday, Dec. 14th, when Sir James Berry (the President) and Lady Berry will receive the guests at 8.30 P.M. in the Society's House at 1, Wimpole-street, W. At 9.30 Sir Alexander Houston will give an address entitled the Romance of London's Water-supply, and this will be followed by demonstrations.

IT has been the practice of the Royal Medical Benevolent Fund for many years to present to the annuitants and some of the most necessitous grantees a Christmas gift of 25*s*. The treasurer now makes an appeal for £370 to keep up this practice. The Committee has not in hand any special fund to draw upon to meet this Christmas gift, to which the recipients in former years are no doubt looking forward, and we hope that many of our readers may be able to send subscriptions to Sir Charters Symonds, at the offices of the Fund, 11, Chandos-street, Cavendish-square, London, W. 1.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Lt.-Comdr. L. S. Goss to be Surg. Comdr.

Surg. Lt. (D) F. R. P. Williams to be Surg. Lt.-Comdr. (D), F. W. Besley and J. W. Simpson to be Surg. Lts.

ROYAL NAVAL VOLUNTEER RESERVE.

Surg. Lt. (D) D. MacGregor to be Surg. Lt.-Comdr. (D).

ROYAL ARMY MEDICAL CORPS.

Temp. Col. (Bt. Col. and Lt.-Col.) J. W. West, K.H.S., relinquishes the rank of Temp. Col. on ceasing to be empld. as Consulting Surg. to the British Army.

Maj. L. A. A. Andrews is placed on the half-pay list on account of ill-health.

Maj. P. M. J. Brett is re-empld. under Art. 507 (*b*), Royal Warrant for Pay and Promotion, 1926.

S. R. M. Mackay to be Lt. on prob.

ARMY DENTAL CORPS.

Lt. R. G. Law to be Capt.

TERRITORIAL ARMY.

Hygiene Companies.—Capt. W. D. Quirke, having attained the age limit, relinquishes his commn.

ROYAL AIR FORCE.

Flying Officer J. McCarren resigns his short service commission.

UNIVERSITY OF LONDON MEDICAL GRADUATES SOCIETY.—At a dinner held at the Langham Hotel on Nov. 25th it was decided to form a Society of Medical Graduates of the University of London. Sir StClair Thomson presided and the formation of the society was proposed by Sir John Rose Bradford, President of the Royal College of Physicians of London, and seconded by Sir Cuthbert Wallace, Dean of the Faculty of Medicine of the University. A provisional committee will formulate a constitution to lay before a general meeting of the society early in 1928. Mr. W. McAdam Eccles was elected acting hon. treasurer, and Dr. C. A. H. Franklin and Dr. Dorothy Hare acting hon. secretaries. Medical graduates of the University may join the society by writing to the hon. secretaries at 124, Harley-street, W. 1.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

CCLII.

THE PREVENTIVE TREATMENT OF DISABILITY AFTER FRACTURES.

To attain success in the treatment of a fracture it is necessary first of all to have a clear idea of what we are setting out to do. The old aim of treatment—merely to produce strong bony union in good line—has caused incalculable pain and loss of wage-earning capacity, and the ideal towards which we should strive nowadays is something altogether wider—namely, restoration of the patient to the state of bodily and mental efficiency in which he was before the accident. Not only the injured bone, but the muscles, joints, and circulation, the dexterity, and even the mental outlook, have all to be brought back to normal.

Accurate diagnosis is the first step towards efficient treatment. Whenever possible in any case of fracture or probable fracture, two radiograms should be taken, in planes at right angles to one another. Where this is anatomically impossible, much may be learned from stereoscopic radiograms. It is not enough to know that a bone is broken; it is necessary to know exactly how it is broken. In many cases it is only by means of X rays that the fact of fracture can be established. And it must be remembered that a small lesion does not necessarily connote a small disability; for example, a fracture of the carpal scaphoid (which is very commonly overlooked), or a chip-fracture of a finger, may be very disabling.

Splints.

Having established the fact of fracture, the next step is *not* to choose a splint. On discovering the fracture the thought should not be, "What splint shall I use?" but rather, "Need I use a splint at all?" A splint is only required when an equally good functional result cannot be attained without it, and if in every case the mechanics of the fracture are carefully considered from this point of view, it will be apparent that splints are often put on when they are quite superfluous and even harmful. A cumbrous back-splint and foot-piece, for example, cannot influence the position of a broken middle metatarsal; the adjacent bones splint it, rest can be secured by slinging the foot, and other support only induces unnecessary stiffness of joints and wasting of muscles. A fracture of the lowermost end of the fibula, again, cannot possibly become displaced; it is too firmly held by its ligaments. Here a splint is not merely unnecessary but actually does damage.

It should always be remembered that, apart from traction-splints, no splint should ever be used to produce reduction; it serves only to maintain it. For instance, if the bones of a child's forearm are bowed, it is useless to try to push them straight by the pressure of a projecting pad on a splint; the bandages will cause a splint-sore if they are tight enough to correct the deformity. The limb should first be "set" properly, and then kept in place by the splints. It is well to remember, too, that wooden splints, being made to fit everybody, really fit nobody; they do not fix a limb, but only rest it. Often, it is true, that is all that is needed, but sometimes true fixation is required, for after fracture the muscles are in a highly irritable state and pull upon the fragments with much more than their normal power. Whether or not this will displace the fragments depends mainly on the type of fracture and the direction of the muscular pull. The risk is small where the fracture is transverse and the muscles run axially, whereas it is large when the fracture is oblique, or where the muscles pull obliquely on the fragments. When true immobilisation by splints is desired, it is usually a

good plan to use plaster-of-Paris, carried well beyond the origins and insertions of the muscles which are acting on the fragments.

Reduction.

If reduction presents the least difficulty, full anæsthesia should be employed. The abolition of pain and of muscular resistance more than compensates for the patient's aversion to being made unconscious, and for the additional trouble and expense. In particular, every case of Colles's and Pott's fracture should be reduced under general anæsthesia, for which purpose gas is inadequate, unless the surgeon and anæsthetist are both exceptionally skilful.

All fractures should be reduced at the earliest possible moment, before effusion and increasing spasm have made the conditions harder. It is wrong to wait until the swelling is going down, for by that time contracture has appeared, and both reduction and retention have become unnecessarily difficult. A good primary reduction, moreover, always gives a better result than any secondary reduction. This applies to operative as well as non-operative treatment. If it is thought that a fracture should be treated by operation, the surgeon should be called in at the earliest possible moment, that he may have the opportunity of early reduction if he thinks proper. Anyone who has striven with an old fracture with shortening will appreciate this point.

Before undertaking reduction it is important to detect any injury of nerves, on which a charge of unskilful treatment is often based. Involvement of the musculospiral nerve in fracture of the shaft of the humerus, and of the circumflex in injuries of the neck of the bone, are cases in point. The former calls for hyperextension of the wrist, in splints, and the latter for abduction of the upper limb to a right angle.

Reduction should always be as complete as possible. Whilst bad alignment is sometimes compatible with good function it is nevertheless true in all cases that the better the alignment the better is the functional result. And it cannot be too strongly emphasised that in the case of the lower limb any deviation of the normal axes of the joints will inevitably result in serious and permanent disability. The leg differs from the arm in that it is a weight-bearing limb. To make it work with its joints "out of truth" is like driving a car with a bent axle, producing unequal strains. "Mechanical arthritis" appears—i.e., osteo-arthritis due to mechanical causes—and becomes steadily worse so long as the static fault remains. Shortening of the limb is of no great consequence if the bones remain parallel, as seen from the front. A slight lateral displacement of tibia and fibula is compatible with very good function provided that the upper and lower fragments remain parallel. But the moment that any abduction or adduction appears in any part of the lower limb, and the joint-surfaces are thrown "out of truth," disability is a certainty. Every such condition demands complete correction at the earliest possible moment. It is futile to hope for the least relief from massage, special boots, wedging the sole, osteotomies, and the like; none of these can correct faulty mechanics. Permanent crippling will always occur, in Pott's fracture, unless the limb be set with the axes of the knee-joint and of the ankle-joint absolutely transverse; the top of the astragalus must always be exactly parallel with the ground. Valgus is fatal.

Massage and Movements.

After-treatment begins as soon as reduction is completed. Massage can be used with advantage in most fractures from the very day of injury; it gets rid of effusion, allays muscular spasm, and so minimises pain. Skilled sedative massage often aids reduction. Later, massage is employed to prevent wasting, and all possible joints are exercised to full range. Especially with compound fractures is it important to maintain the movement of unaffected parts; with fractures of the leg the hip must be moved daily, and with fracture of the forearm a stiff shoulder is a disgrace. It must always be remembered that the functional utility of the limb as a whole is the measure of success in treatment; the bone is sometimes only a minor consideration. With fractures near joints, for example, it is usually more important to consider the function of the joint than the state of the bone; early movements are indicated, and often it is possible to do without a splint and to move the parts from the first. A Colles's fracture impacted in good position—i.e., without backward rotation—is an example. Early mobilisation is often facilitated by operation—e.g., wiring of the patella, and direct fixation of supracondylar fractures.

This brings me to the question of movements. Passive movements affect the joint-surfaces and prevent adhesions, but do not affect the muscles or the tendons in their sheaths. Active movements are always preferable, therefore, and in addition they stimulate the patient's mind, and compel him to take an active interest in his cure. If there is ever any doubt about the propriety of movements, or the skill of the masseuse, active movements should be preferred to passive, as they provide the added security of pain. But passive movements are often necessary at first, because the freedom of the joints must be restored before tired, wasted muscles can be expected to move the dead-weight of a limb.

Apprehension, often amounting to hysteria, plays a large part in many cases of fracture. Patients are often afraid to move their limbs, or confidently anticipate much greater disability than is really present. Here, again, prevention is better than cure. Patients should be encouraged, from the first, to move as much of their limbs as possible, and to move them vigorously. In Colles's fracture, for instance, they should be made to clench their thumb and fingers quickly and powerfully from the moment the fracture is first reduced. The medical profession itself is responsible for much of the difficulty in the treatment of fractures to-day. The public has been taught for years that their limbs must be kept at absolute rest in splints for weeks, and they have learned their lesson too well. Passive exercises are bad, because they do not call for physical and mental coöperation on the part of the patient. The whole atmosphere of treatment should be stimulative, and the result, as I have said, cannot be regarded as satisfactory until not only the patient's injured limb, but his whole capacity for daily life and work, have been restored. At first mere range of movement and muscular power have to be regained, but dexterity and fine coördination must later be cultivated anew, and this can only be done by active, voluntary exercises. This may be very important to those whose occupations are highly specialised.

Electrical Treatment.

Electricity is not a panacea in fracture-treatment. It is useful, however, in stimulating the circulation and muscular contractions in the early stages of treatment when a limb is still in splints, and later on in reinforcing a nervous patient's feeble voluntary efforts. It is not enough merely to touch the muscles repeatedly with a faradic electrode without any effort on the part of the patient; the proper way is to make him contract a muscle, and at the same moment throw in a powerful faradic current so as to bring the contraction up to maximum power. Keith's work has shown that muscular contractions are of foremost importance in causing bony union. Faradism is also useful in convincing a hysterical patient that he can contract his muscles quite well, although he thinks he cannot, and a really strong current cures many a malingerer.

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Special Articles.

GENERAL MEDICAL COUNCIL.

PENAL CASES.

TUESDAY, NOV. 22ND.

THE Council, in accordance with custom, heard the cases in public and deliberated on their findings in camera.

Reported by the Dental Board of the United Kingdom.

The Case of James Pickup, registered as of 124, Studley-terrace, Walmersley-road, Bury, in practice on July 22nd, 1878, L.D.S. R.C.S. Irel. 1888. This respondent had been convicted before magistrates for being drunk and disorderly, for indecent behaviour, and for importuning for immoral purposes, and the Board had recommended his erasure. Mr. Pickup did not attend. His counsel, Mr. Maurice Healey, objected that the kind of misdemeanour referred to in Section 13 of the Dentists Act, 1878, was an indictable misdemeanour, and that consequently the offences for which Mr. Pickup was convicted, not being indictable misdemeanours, did not come within the disciplinary jurisdiction of the Council. The President stated that the Council had already been advised, and had always acted upon the view, that the word "misdemeanour" was used in the Act in its wider sense, and he accordingly overruled the objection. The Council ordered Mr. Pickup's name to be erased from the Register.

The Case of Frank Ernest Coe, registered as of 50, Defoe-road, Tooting, S.W. 17, Dentist, 1921, whose erasure the Dental Board had recommended for obtaining payment from a society for a denture which he had not in fact made. The respondent, who was not represented, pleaded that, since the patient had had several sound teeth left, he had decided to fit a partial set, which took much longer than a full denture; owing to shortness of funds he had claimed the amount at once. He had finished the set in the same year. He had failed to appear before the Dental Board on account of ill-health. The Council remitted his case back to the Board for further inquiry and report, and the President advised him to be present at that hearing.

The Medical Register.

Cases adjourned from Nov. 24th, 1926:—

The Case of Percy Bateman, registered as of 423, New Cross-road, S.E. 14, L.R.C.P. Edin. 1906, L.R.C.S. Edin. 1906, L.F.P.S. Glasg. 1906. This practitioner had been convicted of drunkenness on four occasions between 1914 and 1926, and the Council had postponed judgment for six months. He was not present. The Council, said the President, had had some difficulty in coming to the conclusion that the evidence asked for at the original hearing had been fully supplied, and, in order to give Mr. Bateman the opportunity of supplying that evidence in satisfactory amount and character, they adjourned the hearing until the meeting of the Council in May, 1928.

The Case of Thomas Blaney, registered as of 434, London-road, Norbury, S.W. 16, L.R.C.P. Edin. 1920, L.R.C.S. Edin. 1920, L.R.F.P.S. Glasg. 1920. Mr. Blaney had appeared before the Council at the last winter session for a conviction for drunkenness in 1925, and for having been drunk when patients were under his care. The Council were satisfied with the evidence of good conduct produced by the respondent, and did not direct the erasure of his name.

Cases adjourned from May 26th, 1927:—

The Case of Jogesh Chandra Bose, registered as of 276, Chenywood-road, Birmingham, M.R.C.S., L.R.C.P. 1923, whom the Council had found guilty of giving a medical certificate which was untrue, misleading or improper, in a lax and careless manner. Mr. Oswald Hempson, on behalf of the respondent, read several letters from medical practitioners and others testifying to his good conduct during the past six months, and repeated his assurance that he would be extremely careful in future. The Council decided not to erase his name from the Register.

The Cases of (*a*) *Lawrence Crombie*, registered as of Dunollie, Dalmuir, Glasgow, M.B., Ch.B. 1913, U.Glasg.; (*b*) *Eliazer Gelfer*, registered as of 45, Abbotsford-place, Glasgow, C.5, L.R.C.P. Edin. 1923, L.R.C.S. Edin. 1923, L.R.F.P.S. Glasg. 1923; and (*c*) *William Mason Hamilton*, registered as of 63, Dixon-avenue, Crosshill, Glasgow, M.B., Ch.B. 1921, U.Glasg., whom the Council had found to have left unqualified assistants in charge of poisons. Dr. Hamilton brought evidence that he had closed the dispen[illegible] from which poison had been unlawfully sold. The solicitor for the Pharmaceutical Society, Mr. W. Quarrel, brought forward no further facts concerning this respondent, and the Council decided not to erase his name.

Concerning Dr. Crombie, however, Mr. Quarrel brought further evidence, that an inspector had seen a witness buy a tin of "Rankin's ointment for destroying vermin on the head," a scheduled poison, from the same assistant who had sold the lysol which was the subject of the original charge. In defence, Miss Jean Dougan, the assistant, testified that since Dr. Crombie's appearance before the Council in May, some of the poisons had been put under lock and key and the remainder removed to the shop of Mr. T. F. Armstrong, a chemist. She had been instructed to sell nothing containing poison. At that time no Rankin's ointment had been in stock, and she had only ordered two tins to be made up by Dr. Crombie's regular chemist in order to meet an inquiry for it made two days before the visit of the inspector. She had only told Dr. Crombie of her mistake after the sale, and he had promptly returned the other tin. She had thought she might sell the tin, labelled poison, because it was for external use. She was no longer employed by Dr. Crombie, and the shop now belonged to Mr. Armstrong. The witness who had bought the tin was not the person who had ordered it. Mr. Quarrel denied that the Society knew anything about the order. Mr. Armstrong, in evidence, confirmed that he had supervised the removal and segregation of poisons in May, and had advertised, on the instructions of respondent, for a qualified female assistant, but had had no suitable replies. He had asked his wholesale dealers to find him a qualified employee, with no more success. Miss Dougan had therefore been retained, and all possible precautions taken. Dr. Crombie had asked witness to take over the shop in May, but witness had temporised until the ending of his financial year. An agreement had been actually drawn up to transfer the shop on Oct. 1st, and, although this had not been signed, witness had been responsible from that date and had been taking the receipts. He had warned his assistant to send no poisons up to the dispensary, and the Rankin's ointment had been supplied by a mistake. This preparation was very seldom used. Cross-examined, he admitted that the assistant's salary had been paid by one of the medical partnership during October, but for his convenience.

Mr. O. Hempson read affidavits from the respondent's partner and the clerk to the local Insurance Committee that, but for the contract with the Committee, the firm would have given up the shop after the first complaint. As it was, the transfer to Mr. Armstrong had been completed before the sale of the ointment. Respondent gave evidence corroborating that of the other witnesses, and stated that he had, on the very day of the sale, asked Miss Dougan whether she was handling any poisons. He had not heard of the ointment until after the sale. If the actual buyer had been known to the girl, witness would have made every attempt to recover the box.

He had instructed Mr. Armstrong to supply no poisons direct to Miss Dougan. He had tried to make "a water-tight compartment, but it had leaked." Mr. Hempson read testimonials to the respondent's character and conduct, and outlined the comprehensive steps he had taken to prevent the sale of poisons in his shop. The Council decided not to erase Dr. Crombie's name from the Register.

On consideration of Mr. Gelfer's representations and evidence to character and conduct, the Council decided that his name also should remain on the Register.

WEDNESDAY, NOV. 23RD.

The Case of Cecil John Rhodes Morrison, registered as of Trumisgarry, Lochmaddy, North Uist, L.R.C.P. & S. Edin., 1925, L.R.F.P.S. Glasg., 1925. Respondent appeared before the Council on the following charge :—

That you were on Feb. 22nd, 1927, at the Sheriff Court, Edinburgh, convicted of the following offence—namely, of recklessly discharging three shots from a revolver loaded with ball cartridge and wounding two persons to the effusion of blood, and were sentenced to four month's imprisonment.

He was not represented by counsel. The Council's solicitor explained the facts. Respondent had become intoxicated celebrating the New Year with some friends, and when he returned home his brother-in-law had accused him of being drunk. Respondent had become angry, and after words and blows had been exchanged he had fetched a revolver and shot at random round the room, wounding his brother and sister-in-law and missing only his brother-in-law. After this, being confused, he had changed his clothes and walked off with his violin on tour. He had slept in the Pentland Hills and found himself in the morning 21 miles from Edinburgh. On returning to the house and hearing that the police were asking for him he had proceeded to the police-station and had been arrested. At an interview, at which the Council's solicitor had warned him that the Council, whatever they thought about the shooting, would think still more of the habit which had caused it, respondent had promised to abstain from alcohol in future. On hearing respondent express his contrition and good intentions the Council decided not to erase his name.

The Case of Vernon Raymond Joseph De Boissière, registered as of 5503, Wellington-street, Verdun, Montreal, M.R.C.S. Eng. 1923, L.R.C.P. Lond. 1923. This practitioner was summoned on the following charge :—

That, being a registered medical practitioner, you abused your position by committing adultery with Mrs. Annie Dee, a married woman, with whose family and household you stood in professional relationship, of which adultery you were found guilty by the decree of the Probate, Divorce and Admiralty Division (Divorce) of the High Court of Justice, dated Jan. 12th, 1927, and made absolute on July 25th, 1927, in the case of Dee *v.* Dee and De Boissière, in which you were the co-respondent.

And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect.

The Council's solicitor obtained leave to amend the charge by the insertion of the following words after the first paragraph :—

And or that being a registered medical practitioner, you abused your position by committing adultery with Annie Dee (a married woman) subsequent to the date of the service of the petition presented in the said divorce proceedings following and arising out of the friendship which you had formed with the said Annie Dee during the period of such professional relationship.

The Council's solicitor opened his case by reading extracts from the statutory declarations produced in evidence at the hearing before the High Court. Mr. Dee had there deposed that he had made Dr. De Boissière's acquaintance in March, 1926, and had called him in to attend his family professionally. From about May his wife's affection for him had begun to change, but he had had no reason for suspicion. On August 8th he had been sent for to the doctor's surgery, where Dr. De Boissière, his wife, and Mrs. Dee had been present. Mrs. De Boissière had stated that her husband had confessed to being in love with Mrs. Dee. Witness had suggested that it was an infatuation, and the doctor had replied : "No, it has gone further than that." Witness had never lived with his wife again and had filed a petition for divorce. The chief evidence on which the decree had been granted had been that of a girl relative, who had testified to the compromising conduct of the parties ; this evidence, said the Council's solicitor, he rather discounted, as it contained details which it was unlikely that the witness could have observed. Dr. De Boissière, in an affidavit, had denied adultery and had stated that Mrs. Dee was hysterical, had haunted him, and had constantly summoned him without cause ; he had done his best to break off relations with her. When the petition had been served upon him he had, acting upon wrong judgment, given up his practice and gone to Canada. Two days before the boat sailed Mrs. Dee had booked her passage also and had travelled on it as well, but she had been prevented from landing by the immigration authorities. During her return voyage, added counsel, she had written to her husband expressing great distress and regret, and asking for a reconciliation.

Mrs. Annie Dee, in examination, stated that she was living with her mother. She had first met Dr. De Boissière at Amiens in 1918, before he was qualified ; she had been in the W.A.A.C. They had not been particular friends. She had met Mr. Dee in the same place. She had lost sight of the doctor until March, 1926, when she had taken a cousin to consult him, and only remembered him after some minutes' conversation. Dr. De Boissière had subsequently attended witness's husband and son. Witness denied that she had attempted to commit suicide in his surgery, but admitted that she had become hysterical after her baby had been taken away from her on August 9th, the day after she and her husband had parted and after the interview between the families in the surgery. She did not remember what words exactly the doctor had used to Mr. Dee about his relationship with her. She denied having asked Mrs. De Boissière to hand over her husband to her, but said that Mrs. De Boissière had announced her intention to go back to her mother in the States, and advised her, witness, to go to Montreal with the doctor, and had offered to help her in settling there. Mrs. De Boissière and her sister had been in the Canadian Pacific office at the same time as witness and the doctor when he booked his berth, and he had also booked one for witness ; this had been four weeks beforehand. He had paid her passage. She had "not exactly" meant to set up house with the doctor in Canada ; she supposed she would have had to work. They had corresponded regularly up to April, and she had brought some of the letters with her. Although they had been great friends, more than doctor and patient, immoral relations had only started after her husband had left her and divorce papers had been served. Asked if she had had any affection for the doctor before that, she said that she could hardly say.

At this point the Council's solicitor proposed to ask the witness to produce some letters which she had brought with her. Mr. Slade objected ; copies of these documents had not been shown to the defence and their contents were unknown. He did not for a moment imagine that they contained admissions of adultery post petition, but if they did, and he had seen them, he would have conducted the case very differently. In the High Court they would not be admissible. The President ruled that the Council was entitled to hear the opening words, but not the substance, of the letters.

The Council's solicitor, after pointing out that the tenour of the accused practitioner's affidavit was that he had been unable to shake off Mrs. Dee without leaving England, and that he was building up a practice in Montreal and living with his wife and children, read the opening paragraphs of the letters. One began : "My darling sweetheart Nance." The letter was dated Nov. 23rd, and expressed great

affection ; the writer spoke of " sacrificing his career " for the recipient and of sending someone over to ask if she would still have him. Another, dated Oct. 26th, 1926, began " My own darling sweetheart," and the beginning of a third dated April 24th, 1927, was couched in the same terms. None of them appeared to have any signature or ending.

Witness, in answer to the Council's solicitor, testified that these letters were in Dr. De Boissière's handwriting. Envelopes were also produced.

Cross-examined, Mrs. Dee admitted she had used her maiden name before the decree nisi had been announced. She stated that it would be incorrect to say that her friendship with Dr. De Boissière had not originated when he had first attended as her medical adviser. Asked whether her adultery with him had not arisen out of a friendship commenced many years before the professional relationship began, she said she used the word " friendship " in contradistinction to " sweethearts, or something like that." She denied adultery before the petition, but declined to answer the question of whether it had occurred on the boat going to Canada. She admitted she did not wish the Council's solicitor to understand that it had. Asked why she had written to her husband asking for a reconciliation and regretting her action, she replied that she supposed the voyage and the gale at sea had upset her ; the expression " it nearly broke my heart " referred to her parting from her child. She was prepared to swear that Mrs. De Boissière had advised her to go to Canada with the doctor much later than August 8th. She denied that the doctor had shared his cabin with another man ; he had objected to having to share it and had been allowed to change. She had shared her cabin with another woman. Her berth had been reserved some four weeks before the sailing ; she had not said Mrs. De Boissière had been present with them, but that she had been in the same building.

Mr. Slade : When did you first start to become hysterical ?—I can't remember that, can I ?

I think you told us that your baby was taken away from you on August 9th ?—Yes.

And did you then start to become hysterical ?—The second time, yes.

When was he taken away from you the second time ?—About a fortnight after that date, but I can't remember much about it. I was ill ; I can't remember the exact date. Witness added she had been ill for many days after that.

Tell us when you allege that misconduct took place between you and the doctor for the first time.—I don't remember. When pressed the witness said : After the divorce papers were served ; is not that near enough ? We sailed on Oct. 7th, so it must have been some time between those two days. Her husband, she said, had not continued to employ Dr. De Boissière as his professional attendant after August 9th. Questioned, she stated that on one occasion she had found her cousin, the witness for the petitioner, in her husband's arms, and her cousin used often to go into his bedroom. She had, however, suspected nothing. She had threatened to defend the suit, but it was not true that her husband had said : " You must not do so because you will bring your cousin's name into it." When faced with her statutory declaration, in which a passage to this effect occurred, she explained that her reason for making this statement had been that her husband had gone home to her people and she was cut off from them. It was just local gossip. The cousin, had, however, come back to be near her husband. Asked whether her husband had remarried she said she knew nothing of him.

How many times did you see the doctor between the interview of August 8th and Oct. 7th, when you both sailed ?—More or less every day.

Where do you say this misconduct took place ?—(On pressure) In a friend's flat.

And what is the name of the friend ?—I am not going to say that.

How many times did misconduct take place ?—I could not tell you.

So you cannot tell us the date, nor how many times, and you say it was neither in your own flat nor in the doctor's house. And it is on those grounds that you are asking this court to understand that Dr. De Boissière committed adultery with you ?—No. I said that my last wish was to see Dr. De Boissière struck off the Register.

Re-examined, she stated that her husband had given her no money on parting, but that Dr. De Boissière had paid her passage ; not at the time of booking but by a cheque given the day before the boat sailed.

Questioned by the Legal Assessor, witness stated that Dr. De Boissière had been attending her family as their doctor between March, 1926, and August 9th in that year, and had attended her boy nearly every day. A member : How do you know that the letters are actually by Dr. De Boissière ?—Mr. Harper : The lady has sworn that she recognises the handwriting. Member : But three of them are unsigned.—The President : It is not proved that they are by Dr. De Boissière at all. Mr. Harper : Except that the witness has proved it on oath. Member : Are all the notes in the same handwriting ?—Yes. Member : And where do they come from ?—Montreal.

Counsel for the accused practitioner submitted that if Mrs. Dee's evidence was accepted it cleared his client of adultery before August 8th. The affidavits used to support the petition were questionable, as the suit had not been defended. He tried to hold that there had been no contractual relationship with Mrs. Dee, but the President ruled that this was irrelevant. The charge was one of abuse of professional position and did not depend on the contractual situation. Mr. Slade reminded the Council that the practitioner's affidavit had dealt with the allegations made in the petition, but not with those made that day.

Mrs. Hilda Theresa De Boissière, examined in chief, testified that she was living happily in Montreal with her two children and her husband, who was in practice there. The last entry in the day-book had been on August 5th, for Mr. Dee's son. Apart from August 8th, when Mrs. Dee had come to the house, respondent had not attended the family. After that date he had been much against any further visits to or from Mrs. Dee. At the interview at the surgery on August 8th, between the two couples, witness had not heard any words from her husband to the effect that he had committed misconduct with Mrs. Dee. Witness had seen Mrs. Dee about half a dozen times ; she had called in June and asked witness to tea. Witness had not been inclined to be friendly ; frankly, she said, on account of Mrs. Dee's reputation. Mrs. Dee had threatened suicide in witness's presence, and in that of two other witnesses, and had behaved irrationally, trying to drink the contents of empty bottles. She had said that this was because respondent had ceased to be her doctor. Mrs. Dee had asked witness on August 8th to give up her husband to her ; witness had flatly declined. After the " nitric acid " incident (an alleged attempt at suicide) respondent had said that at first he had been sorry for Mrs. Dee—he had a very sympathetic nature—but that he could not then go out of doors without meeting her. She had made a continual threat of suicide. Her husband's cabin had been also occupied by a gentleman, and Mrs. Dee had shared her cabin with an old lady. Mrs. Dee's passage had been booked the day before the boat had sailed. Respondent had often expressed the wish that Mrs. Dee should not be allowed to land, and witness's sister had succeeded in having her stopped. The letters addressed to Mrs. Dee were actually in the respondent's writing. Witness repudiated Mrs. Dee's statement that witness had advised her to go to Canada with respondent. Witness had gone to Montreal to get the house ready for her husband, not to join her mother in the States. Respondent had joined witness on the day he had landed, and they had lived very happily together ever since, as they had before. She was convinced of her

husband's innocence, and had come from Canada to give evidence for him. Under cross-examination witness stated that her husband had not paid Mrs. Dee's passage. She had not seen his replies to letters threatening suicide. He had asked her advice, as he had been afraid of public censure if the threat was carried out. Questioned by the Legal Assessor, witness admitted not knowing whether respondent had booked Mrs. Dee's passage, nor whether the other gentleman had actually occupied his berth in respondent's cabin. She had offered to help her husband defend the divorce, but he had been afraid of publicity, and Mrs. Dee's suicide, and they had both been anxious to get away to Canada, where they had lived before. Even if he had proved his innocence "it was never very nice"; the stigma would remain.

Mrs. Alexandra Wallace testified that, on verbal instructions given by respondent two days before he had sailed, she had informed the Canadian Pacific office of the affair. She had afterwards heard, she believed from her sister, that Mrs. Dee had been deported, presumably in consequence of the steps she had taken.

This witness was closely cross-examined by the Legal Assessor on her exact reasons for taking this action, and on the precise information she had given to the lady superintendent at the Canadian Pacific Office, and on what steps had then been taken. She pleaded inaccuracy of memory, but re-stated that Dr. De Boissière had told her to have Mrs. Dee stopped if possible, that she had told the superintendent, whom she had met once before when she had visited the office with Mrs. De Boissière to book this lady's passage, that Mrs. Dee was travelling in her maiden name, and that the superintendent had been indignant. She could not remember, she said, whether she had spoken about the divorce proceedings, and did not know what steps the company had taken to have Mrs. Dee prevented from landing.

Counsel for the defence, in his address, said that dealing first with the facts, the learned judge who heard the divorce suit had been asked to accept as evidence of adultery the alleged remark of the doctor at the interview; "No, Mr. Dee, it has gone further than that," an admission which Mrs. De Boissière said had never been made, and which she would have remembered if it had been made. There was therefore no credible evidence of adultery before the petition. Nor did the letter written by Mrs. Dee on her journey home afford any evidence against his client, and if his client had been at the trial it would never have been taken as evidence by the judge and jury. It gave the reason for her distress as the rough weather, and could only have been meant to convey one impression. Its writer was scorned, angry, and vicious, and had been turned back from Canada; she had meant to convey by it that she had committed misconduct on the boat. Mrs. Dee could not, or would not, say when or how often she had acted immorally. The mere fact that she had booked her passage as Miss Davis would have been sufficient grounds for stopping her. Her letter contained the phrase "the wrong I did you." She swore she had done no wrong before the petition. She had not defended the action, obviously because she was pursuing the unfortunate doctor and wanted freedom from her husband. As for the evidence of the girl cousin, it was incredible, and could only have one explanation, that the witness had desired Mr. Dee's attentions. Moreover, it had been material elicited by questions of the most leading kind. Assuming that the doctor was anxious to defend and that Mrs. Dee was anxious not to, his position was impossibly difficult. Every professional man knew that to be "mixed up" in a case was only one shade better than to be actually guilty, and that innocence went for practically nothing. The action of the doctor in leaving the suit undefended might have been misguided, but it was perfectly compatible with his innocence. Mrs. Dee's word was the only evidence against the doctor, and if it were to be believed, it must be taken in his favour as well.

On the second charge, that of post-petition adultery, the only evidence was again that of Mrs. Dee. It was upon the instructions of Dr. De Boissière that Mrs. Wallace, unless this witness was deliberately lying, had had Mrs. Dee stopped. That meant either that the request had been a blind—in which case the doctor was an extraordinarily fine actor—or that he had been genuinely anxious to get rid of the woman; this was the only possible explanation. It was natural that, after being slighted in this way, Mrs. Dee should express some animus. On the question of the professional relationship, counsel held that the friendship had originated in 1918, as Mrs. Dee's declaration had stated, and that the professional relations had been incidental and had terminated in August, 1926. Adultery was not necessarily infamous conduct, and a young man who met a woman of far stronger character who must have wanted him, or she would not have let her husband divorce her, who pestered him and threatened suicide—and who fell into immoral relations with her, was not to be classed with a well-established man who abused his professional position to commit adultery.

Mr. Harper, for the Council, said that the friendship that commenced in 1918 could not be taken into account. The accused practitioner's affidavit contained a very remarkable phrase. "There was no illicit and wrongful relationship . . . at the time complained of"; he had not made the denial absolute. He had been composing the affidavit with the help of his wife, who could not have known half the story. The attempts to prevent Mrs. Dee landing must have emanated, not from the doctor, but from his family. Mrs. Wallace had testified under cross-examination that the doctor and his wife were not cohabiting, and therefore there must have been trouble between them. When the defence had stated that there was no evidence except that of Mrs. Dee, they had not referred to the letters, which Mrs. De Boissière had seen that afternoon for the first time. It had been admitted that her husband had read her a paragraph of one of the letters that he had written to Mrs. Dee, but not that he had shown her a letter. These letters seemed to him, the solicitor, to destroy any credit that might be placed on Dr. De Boissière's word, and to indicate that the charge was well founded.

After the Council had deliberated on the case in camera the President announced: "Mr. Slade: I have to inform you, on behalf of your client Mr. De Boissière, that the Council have found that the facts alleged both in the first part and in the second part of the charge set out in the notice of inquiry have been proved to their satisfaction and that they have pronounced judgment on the facts so proved. Their judgment is that Mr. De Boissière has been guilty of infamous conduct in a professional respect, and they have directed the Registrar to erase from the Register the name of Vernon Raymond Joseph De Boissière."

THURSDAY, NOV. 24TH.

The Case of Victor Thomas William Eagles, M.C., registered as of 39, Linwood-road, Bournemouth, L.R.C.P. Edin. 1912, L.R.C.S. Edin. 1912, L.R.F.P.S. Glasg. 1912. Respondent had been summoned before the Council on the following charge:—

That you were on August 9th, 1927, convicted at the Witham Petty Sessions of the following misdemeanour—namely, of being drunk whilst in charge of a motor-car, and were fined £30, ordered to pay £3 10s. costs, and disqualified from holding a driving licence for two years.

The Council's solicitor said that it was unusual for the Council to summon a practitioner for one conviction, but that this had been rather a scandalous case. He read extracts from the proceedings before the magistrates. Dr. Eagles had turned his car over by striking a bank while in a state of intoxication.

Respondent denied drunkenness and pleaded an error of judgment in driving. He had driven again later on the same night. He suggested that the heavy sentence had been due to the fact that the chairman of the sessions had been a medical man, and he stated

that he had been the victim of police methods. In answer to the President, he admitted that he had visited a number of public-houses and had a reasonable quantity of drink. He had pleaded guilty because he had not wanted the lady who had been his companion to be summoned as a witness, but had altered his plea when she was called. The Council, while considering a conviction of this kind discreditable to both a practitioner and his profession, decided in view of the warning the respondent had received not to order the erasure of his name.

The Case of John Joseph Macabe, registered as of 58, Brunswick-street, Chorlton-on-Medlock, Manchester, M.B., B.Ch. 1918, N.U. Irel. Mr. Macabe had been convicted once of assault and four times of drunkenness, between 1920 and 1926 inclusive. Respondent admitted that he had committed all the offences but that of assault. He had not been engaged in any professional work at the time. Since his student days he had been unable to carry drink. He assured the Council that he had determined to abstain from it, and produced recent testimonials to his good professional conduct from medical men with whom he had been associated. The Council postponed judgment until their session in November, 1928, with the customary proviso and warning.

The Case of Bernard Wilfred Goldstone, registered as of 14, Menelik-road, Cricklewood, N.W. 2, M.R.C.S. Eng. 1926, L.R.C.P. Lond. 1926. Respondent appeared before the Council on the following charge :—

That, being a registered medical practitioner, you abused your position by committing adultery with Mrs. Theresa Doris Froomberg, a married woman, with whom you stood in professional relationship, of which adultery you were found guilty by the decree of the Probate, Divorce and Admiralty Division (Divorce) of the High Court of Justice, dated July 25th, 1927, in the case of Froomberg *v.* Froomberg and Goldstone, in which you were the co-respondent. And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect.

The respondent was accompanied by Mr. Oswald Hempson, solicitor. The complainant, Mr. Froomberg, was represented by Mr. E. L. D. Zeffert, solicitor. Mr. Zeffert, in his opening address, stated that the only relevant issue was that of whether a professional relationship had existed; adultery was admitted. Complainant, a merchant in the City, had been married in 1922 and his work took him away from home one week in three. In August, 1926, during their holidays at Le Touquet, Mr. and Mrs. Froomberg had stayed in the same hotel as the brother of the accused, who was engaged to be married to a sister of Mrs. Froomberg. Dr. Goldstone had spent one night with them on his way to Germany. He had then made the acquaintance of Mr. Froomberg and renewed his friendship with Mrs. Froomberg, whom he had known as a child. He had on that occasion prescribed a phenacetin and caffein powder for her, as she had complained of headache while out walking. Acquaintanceship had been next renewed at the house of Mrs. Froomberg's mother and continued at parties held in the houses of both families. At the end of November Mrs. Froomberg had fainted at her mother's house and Dr. Goldstone had been summoned by his brother to attend her. Mrs. Froomberg had been in good health, but subject to headaches and fainting fits; she had been under the care of a Dr. Morton, but had persuaded her husband to put her under the care of Dr. Goldstone as well. It would be proved that Dr. Goldstone, by reason of his medical qualification, and of the request of Mrs. Froomberg, had been allowed access to the house, her bedroom, and her person. Two prescriptions had been set out in the statutory declaration and another had been discovered since. They were dated Feb. 15th, 1927, March 20th, and 23rd, 1927. Dr. Goldstone had also attended and prescribed for a servant in the house in March. During all this time there had been adultery, and early in April Dr. Goldstone and Mrs. Froomberg had gone abroad together.

Mr. Joseph Froomberg, examined, confirmed the story as outlined above. He said that his wife had had great faith in Dr. Goldstone's capabilities, but he had had more faith in Dr. Morton. As she had suffered from nervous attacks he had allowed Dr. Goldstone to treat her, in spite of the fact that Dr. Morton had been attending her at the time. He had also visited the house socially.

Replying to the Legal Assessor, he said that Dr. Goldstone's treatment had commenced in November, 1926.

Continuing in reply to his solicitor, he said that Dr. Goldstone had at first attended once in three or four weeks, but later, after January, 1927, perhaps once a fortnight, to his own personal knowledge. He could not vouch for what had happened in his absence. He had left the room when Dr. Goldstone and Dr. Morton had attended professionally, but had been present at social visits.

Cross-examined by Mr. Hempson, witness denied that the discovery of the prescriptions was his only reason for saying that Dr. Goldstone had attended his wife professionally. He agreed that at Le Touquet Dr. Goldstone had not been registered, having just passed his final examination. He repudiated the suggestion that Dr. Goldstone had only attended Mrs. Froomberg professionally on three occasions (the headache at Le Touquet at the end of July, the fainting fit at her mother's in November, and the attack of influenza in March) and also that he had only entered her bedroom once, on the last occasion. He had himself shown Dr. Goldstone into Mrs. Froomberg's room on several occasions, "round about January and February, not very often perhaps, but on one or two occasions." Dr. Morton had been their regular medical attendant and had attended throughout this period. Dr. Goldstone had never rendered an account, though he, witness, had mentioned it several times, approximately every time Dr. Goldstone came to the house professionally. The reply had been something like "no hurry" or "don't bother." Mr. Hempson suggested that it was extraordinary that no mention had been made of these facts in the statutory declaration prepared for the Council. Mr. Froomberg replied that he had very little to do with legal affairs and had signed what his solicitor had prepared. He had declared what he thought was of material importance.

Why, then, did you not include this in your declaration ?—It probably did not occur to me.

There, we have "probably" again.—Because it did not occur to me to include it.

Knowing what you were charging him with ?—Yes. I did not think he would defend the case.

That declaration was made as carelessly and lightly as that ?—I do not think you ought to put it like that.

I put it that that declaration is true as far as the exhibits are concerned ?—What is in the declaration is perfectly true, but that does not say that what I have said now is untrue.

I am suggesting that what you have added to the declaration now is not a fact. You never brought this out in the first proceedings, did you (i.e., before the Divorce Court) ?—It was not necessary; the only thing necessary to prove was the adultery.

You must take it from me that there is no mention in the petition of the fact that Dr. Goldstone is a medical man; I am suggesting that it was not mentioned because that relationship has never existed ?—The suggestion is ridiculous.

Witness did not agree that it was a strange coincidence that his statutory declaration only alleged professional attendance during the two months of the dates of the prescriptions, and held that Dr. Goldstone and his wife could not have met socially outside his house more than about once a month during 1926, though they had met more often after January, 1927.

The suggestion is that it was the professional relationship that brought about the friendship ?—That is true. No, I should not say that that was true altogether. It is true of my own friendship with Dr. Goldstone, but I should not think it was true of my wife's friendship.

Did you ever explain to Dr. Morton that somebody else was attending Mrs. Froomberg ?—No, he knew nothing of it.

And he frequently came to the house ?—Yes.

Was this treating Dr. Morton fairly ?—It was not a question of treating Dr. Morton fairly as far as I was concerned. My wife had more faith in Dr. Goldstone and she was of a very difficult temperament.

And yet you never explained that to Dr. Morton ?—No.

If it was true, did it not occur to you that the treatments might not agree one with another ?—Dr. Goldstone was perfectly aware that Dr. Morton was attending to my wife.

But the other way did not occur to you—that Dr. Morton's treatment might be affected by Dr. Goldstone's prescribing for her ?—Dr. Morton offered to prescribe for my wife, but my wife never took the medicines.

Is that your reason for not telling Dr. Morton ?—No, I wanted Dr. Morton to keep an eye on her.

The question I put was this : did it not occur to you that the medicine that was being prescribed by Dr. Goldstone might have handicapped Dr. Morton in his treatment of Mrs. Froomberg ?—It might have occurred—it did occur to me—but I am afraid I did not have my own way in that respect.

And despite that you did not tell him ?—No.

Again I suggest that the reason for that was that there was no professional attendance by Dr. Goldstone.

Witness agreed that Mrs. Froomberg had confessed to adultery from the beginning of December.

Mr. Zeffert produced a letter from Dr. Morton saying that there had been no attendance on Mrs. Froomberg in January or February, but the President refused to admit it as evidence.

Questioned by the Legal Assessor witness said that he had definitely placed his wife under the care of Dr. Goldstone "about January."

The Legal Assessor : That being so I do not quite understand your declaration. It was put to you, you know, that you knew what the declaration was for, the purpose for which it was made ; for these proceedings, and the charge in these proceedings was that Dr. Goldstone had abused his professional attendance on your wife. You knew that that was the ground of the charge ?—Yes.

Will you now kindly look at your para. X. : "In the months of February and March the said Bernard Wilfred Goldstone attended my wife as medical practitioner." Did you mean to imply by those words that that was the only time on which he had attended her ?—No. I might have said "January, February, and March."

You might have said many things. Did you mean to imply by those words that that was the only time that this doctor had attended her ?—No.

Then why did not you declare that you had put her under treatment in the beginning of 1927 ?—The reason for that is that in the early part of 1927 it was just very rarely, perhaps once in three weeks, that he did attend to her. That might have been once in January, but during February and March, which were much more important months, he was in the house once or twice a week.

I want some explanation in answer to my question as to why you merely state there that he attended her in February and March, if you do not mean to imply that that was the only time ?—The reason why I put in February and March was that during February and March he attended her very frequently, whereas previous to that it was the reverse—occasionally. Sometimes a doctor might come and not come again, or you might change your doctor.

Was it because February and March coincided with the dates of the prescriptions that you had found subsequently to your wife's leaving you ?—No.

You exhibited them to point the date when she was being attended ?—Those happened to be two prescriptions found in the house, and naturally I put them in the hands of my solicitors. There were others, I believe.

Knowing the gravity of the charge, you said nothing about putting your wife under the charge of the doctor during January, 1927 ?—No. Perhaps he only visited her once during that month.

In answer to questions put by the President, witness said that he had shown Dr. Goldstone into the bedroom on one Sunday afternoon ; on other occasions he had been out, and could not state the time of day. Dr. Goldstone had not sent in a bill for attendance on the maid, as this was just before he had eloped. Dr. Morton had not ceased attending Mrs. Froomberg during January, February, and March ; he had called once in two, three, or four weeks and was their regular practitioner. He had attended witness and his child, and witness had insisted that he should also attend his wife, and had actually seen her. He could not remember whether or not he had received an account from Dr. Morton. He had sent for Dr. Morton to visit his wife during those three months. He had never sent for Dr. Goldstone in the same capacity. Dr. Goldstone had usually come at his wife's request.

Questioned by a member of the Council, through the President : Did he in fact ask Dr. Goldstone to take charge of his wife ?—I did not ask Dr. Goldstone to take charge of my wife medically. My wife asked him herself.

Did he authorise his wife to have Dr. Goldstone as a medical attendant ?—I did.

Mrs. Elizabeth Roots, examined, said she had been house-parlourmaid in Mrs. Froomberg's house during the winter of 1926-27. She had admitted Dr. Goldstone to the house. Sometimes he had been treated as other visitors and sometimes he had come as a doctor ; she thought he was a doctor on these occasions because he had brought his bag. He had attended Mrs. Froomberg in her bedroom constantly for one week, and occasionally at other times. Dr. Morton had also called and seen Mr. Froomberg in January and February.

Cross-examined, witness said she had shown Dr. Goldstone to Mrs. Froomberg's bedroom about two or three times in the week of constant attendance, just before Easter. Pressed, she said she had shown him to Mrs. Froomberg's bedroom altogether about a dozen times. She could give no precise dates.

There was no statutory declaration from this witness.

Mr. Hempson put it to her that she had only shown Dr. Goldstone to Mrs. Froomberg's room on one occasion. She replied : "I showed Dr. Bernard up more than once."

Replying to the President, she said Dr. Goldstone had usually called about tea-time, and Dr. Morton in the morning.

Miss Beatrice Ashby, cook at Mrs. Froomberg's house, described Dr. Goldstone's attendance on herself at the end of March.

Dr. Goldstone, examined by Mr. Hempson, said that he was 24 years old and that he had known Mrs. Froomberg as a child. He had renewed the acquaintance at a party held at her mother's house to celebrate the engagement of his brother to her sister. He had then met Mr. Froomberg. About a fortnight later he had been invited to a party at their house. They had subsequently met at the weekly "At homes" of their respective mothers, and again at Le Touquet on August 3rd, 1926. He was then unregistered, though qualified. He had given her a prescription for phenacetin, aspirin, and caffein while walking along the road, there had been no consultation, and no question of remuneration. He had seen them fairly frequently after his return from Germany in September, and had become friendly with Mr. Froomberg. One night in November he had been working at home when a telephone message came from his brother that Mrs. Froomberg had fainted at her mother's house. He went round, but she had recovered, and he gave no prescription. Mr. Froomberg, witness's brother, and witness had taken her home in a car and carried her up to her room. He had never regarded himself as her medical attendant. When, on a very few occasions, Mrs. Froomberg had talked to him about her health he had always asked why Dr. Morton had not been consulted. On one or two occasions they had been unable to obtain him ; on others they had said he had not been called in, but witness had subsequently discovered, to his annoyance, that in fact he had been

summoned. His attendances on Mrs. Froomberg, in any sense professionally, certainly would not run into two figures. The prescription dated Feb. 15th, 1927, was one for ergot and sulphuric acid; Mrs. Froomberg had complained to him of menorrhagia, when he was having tea with her that day, and had asked him if he could do something for her, as she was feeling rather bad. There had been no subsequent attendance. At that time he was attending at the hospital out-patient department; he had done a locum for three weeks at the beginning of the year, but had otherwise had no professional work. The second prescription, dated March 20th, was a simple diaphoretic (pot. acet. and inf. buchu). He had been rung up by someone—not Mrs. Froomberg herself—to ask him to call and see her. He had asked about Dr. Morton and they had said they had been unable to get him. He had seen Mrs. Froomberg in bed and found she had influenza. He had stayed to lunch with Mr. Froomberg. Three days later he had prescribed a tonic for her. This prescription was dated March 23rd and contained tinct. nucis vom. and liq. arsenic. He could not recall any other professional services to Mrs. Froomberg, though he admitted there must have been some. They were isolated and unimportant incidents, such as headaches, mentioned while he was visiting socially. He had often visited socially, but it was impossible that he could have visited professionally often; there had been no protracted illness other than this influenza—a matter of two visits. He had known that she was under the permanent care of Dr. Morton. It had never entered his head to send in an account for these services, and Mr. Froomberg had only mentioned a bill once. He had said "I suppose I ought to pay you for this," and witness had replied "Nonsense." He was honestly of the opinion that he had never been sent for professionally on any occasion other than those mentioned. It was absolute nonsense to say that he had been shown to Mrs. Froomberg's bedroom on 12 occasions. He had met Mr. Froomberg frequently during this period, at his house and at the houses of witness's mother and Mrs. Froomberg's mother. He had visited Miss Ashby in her room after a faint, accompanied by Mrs. Froomberg, and had secured her admission to the Middlesex Hospital. Intercourse had first taken place between Mrs. Froomberg and himself in the beginning of December. When he had first found that he had formed an attachment for her he had wanted to go away at once, but she had refused.

Cross-examined, he put the date of the first adultery at Dec. 3rd, which was before Mrs. Froomberg's fainting fit. It had occurred at Mr. Froomberg's house, in the late evening.

This was on the occasion of a social visit?—It certainly was not a medical visit.

As far as the servants were concerned?—I never asked the servants' opinion of it at all.

In what part of the house did it take place?—Downstairs.

After the servants had gone to bed?—I never noticed.

Are we agreed that up to that time Mr. Froomberg's acquaintance with you was of the slightest nature?—No, we are not agreed.

Will you tell me when your relationship with Mr. Froomberg became of a friendly nature?—That is a hard thing to define.

I put it to you this way, that from and after the time of the fainting fit, until you went away with Mrs. Froomberg, you were as an honoured guest in his house, and he treated you as their friend. And it is perfectly true that, during the whole time, you were seducing his wife, and do you know that the marital relationship between husband and wife was perfectly normal as far as Mr. Froomberg was aware?—I knew nothing about it.

You knew at that time you were deceiving Mr. Froomberg?—Yes.

You have betrayed his hospitality?—Yes.

The case against you is that you were using your medical qualifications to deceive Mr. Froomberg and the two servants to obtain access to the person of Mrs. Froomberg?—I did not know that was the case against me.

But you will agree with me that Mr. Froomberg, by reason of your medical qualifications (and the two servants), permitted you free access to the person of Mrs. Froomberg?—Not by reason of that.

Do you think, Sir, that if you were an ordinary member of the public you would have been admitted to the person of Mrs. Froomberg?—I am certain of it.

Do you agree that Mr. Froomberg is a clean-living man?—I know nothing about Mr. Froomberg's private life.

You have heard nothing from Mrs. Froomberg about it?—No. I would not be bothered about that sort of thing.

Pressed to cite something from Mr. Froomberg's evidence that was untrue, witness pleaded poorness of memory, and finally quoted the statement that witness had visited his wife professionally many times. Although pressed, witness said he would stand or fall by his statement that it was not Mrs. Froomberg personally who rang him up on the Sunday of the influenza attack, and that if he had visited her on March 21st or 22nd her husband had been in the room at the time.

Do you mean to say that those servants would have allowed you the run of the house if you had not been a doctor?—They only started calling me "doctor" after I had treated Miss Ashby.

But you did not treat Miss Ashby until you had determined to take Mrs. Froomberg away with her husband's money?—I did not take Mrs. Froomberg away with her husband's money.

Did you go away with your own money? Did you support her?—Yes.

Solicitor then produced a small diary. Mr. Hempson pointed out that he had not hitherto seen this exhibit, and was allowed to examine it.

You have received letters from Mrs. Froomberg?—Two, I think.

Is that Mrs. Froomberg's handwriting?—I don't know. I dare say it is. I have not seen enough of her handwriting.

Do you swear that you do not know her handwriting?—"Know" is a word I do not understand. If you wrote to me I could tell it was not Mrs. Froomberg's handwriting.

Look at that handwriting. Just answer me, Is that Mrs. Froomberg's handwriting?—I do not know.

You have seen her write letters?—I have not watched what she has been writing.

And you expect this Council to believe that you do not know her handwriting?—I do not expect things to be believed or not. I am speaking the truth.

In answer to Mr. Hempson, witness said that he was known to the maids as "Mr. Bernard" up to the date when he attended Miss Ashby, and after that as "Dr. Bernard."

In answer to a question through the Chair, witness said that he had made no physical examination when he had prescribed the ergot mixture.

The President: Have you got into the habit of ordering ergot for lady friends who are not your patients?

Witness: No, Sir. As a matter of fact, I looked up the dose in my Pharmacopœia.

Mrs. Theresa Doris Froomberg, examined by Mr. Hempson, confirmed the evidence given by Dr. Goldstone.

It has been put by Mr. Froomberg that in December or January you asked that you might be attended by Dr. Goldstone as your doctor. Is that correct?—No.

Was he your doctor at that time?—No.

It has been said also that he visited you professionally about once in three weeks, throughout January, until about the middle of February, and thereafter two or three times a week, professionally. Is that correct or incorrect?—It is quite incorrect.

It is also said that on 12 occasions he was shown up to your room by your housemaid during that period

of three months. What do you say to that ?—That it is not true.

She described the circumstances under which the prescriptions had been given in the same terms as Dr. Goldstone had done.

Do you remember being ill on March 20th ?—Yes.

What steps did you take to get medical attention ?—I was in bed in the morning. My little girl's nurse came to see me. She said I did not look well, and she took my temperature, which was about normal, and said I had better have the doctor. She tried to get Dr. Morton and he was out. Then she telephoned to Dr. Goldstone.

The President: Did you tell her to ?—Yes.

Under renewed examination witness said Dr. Goldstone had visited her again on the Monday and on the Wednesday. The only other medical services rendered by him were on the occasions of fainting attacks occurring when he was present. It was not true that he was attending more or less regularly throughout that period as her medical attendant. She did not look on these services as professional in the sense that they were to be remunerated. He had attended Miss Ashby as a doctor. He had always been known to the maids as "Mr. Bernard."

Under cross-examination, witness identified her handwriting in the diary and said the entry was written out at the time. Solicitor read out the entry of March 20th: "Felt rotten this morning, so rang Bernard up and he said I had flu. Joe played golf. Bernard stayed to lunch. Joe and Bernard went up West together, and did not return till 6." March 22nd: "Bernard came in to see me early this evening. I can go downstairs to-morrow."

Would you describe Mr. Froomberg as an ordinary clean-living business man, leading an ordinary life, truthful, honourable ?—Yes.

Mr. Hempson: In spite of that would you say that the evidence given by him to-day was true ?—Yes, except for the question of attendances.

Did you or did you not send for Dr. Goldstone for that trouble on the 26th (March) ?—I did not.

Why not ?—Dr. Morton was my medical attendant.

He was available when you rang ?—Yes.

Can you tell me of any other date whereon it is recorded (in the diary) that Dr. Goldstone attended you professionally ?—I can't.

Or in a medical capacity ?—No.

In answer to a question through the Chair witness said that sexual relations began at the end of November or the beginning of December, before the date of the fainting attack at her mother's house.

This closed the evidence. The two solicitors addressed the Council on Friday, Nov. 25th, and after deliberation in camerâ the President announced the verdict in the following words:—

"Dr. Goldstone, I have to announce to you that the Council have found the convictions alleged against you in the Notice of Inquiry to have been proved to their satisfaction. They have found you thereupon to have been guilty of infamous conduct in a professional respect, and have directed the Registrar to erase your name from the Register."

The Case of Harry Simpson Harling, registered as of 102, Skipton-road, Ilkley, L.R.C.P. Edin. 1909, L.R.C.S. Edin. 1909, L.F.P.S. Glasg. 1909. This practitioner was also charged with abusing his professional position to commit adultery. He did not appear in answer to his notice, and the Council, on hearing the representations of his legal adviser, adjourned the hearing of his case until their May session next year.

The Case of Robert Moore, registered as of 34, Mawney-road, Romford, M.B., B.Ch., M.D. 1905, U. Dubl., and *the Case of John McGhee*, registered as of Station-road, Galston, Ayrshire, M.B., Ch.B. 1923, Glasg. Both these practitioners had convictions proved against them of being drunk in charge of motor-cars; Mr. Moore had been also convicted of driving to the public danger on another occasion, and Mr. McGhee of drunkenness. The Council suspended judgment for six months in each case.

FRIDAY, NOV. 25TH.

REPORTS OF COMMITTEES AND OTHER BUSINESS.

Restorations.

After consideration in camera, the Council decided to restore to the Register the names of William Lloyd, registered as of 58, Brook-street, W. 1; Sydney Edgar Price, registered as of 77, Lower Hollyhedge-road, West Bromwich, Staffs; and George Joseph Mary Fraser, registered as of 39, Fitzwilliam-place, Dublin, erased under the penal section of the Medical Act.

Removal of Name at Practitioner's Request.

The name of Henry Bown, registered M.R.C.S. Eng. 1926, L.R.C.P. Lond. 1926, was removed from the Register at his own request, on the ground that he had ceased to practise.

Nominations to Committees.

Education.—Sir Farquhar Buzzard and Dr. Lorrain Smith, nominated by the English and Scottish Branch Councils respectively, replaced Mr. Thelwall Thomas and the late Dr. H. Littlejohn.

Examination.—Dr. J. S. Stopford replaced Dr. R. B. Wild as representative of the English Branch Council.

Public Health.—Dr. Lorrain Smith replaced the late Dr. Littlejohn as representative of the Scottish Branch Council.

Education Committee.

The Chairman of the Education Committee, Sir Humphry Rolleston, laid before the Council on Friday morning, Nov. 25th, two important reports, one on the amended regulations for the registration of students, and the other on the progress made throughout the country towards the readjustment of the medical curriculum in accordance with the resolutions of the Council passed on May 26th, 1922. The second of these reports is a pamphlet of about 200 pages, and contains the replies of all the licensing corporations to the Council's recommendations, with the comments of the Education Committee thereon. All the bodies, with the one exception of St. Andrews University, have modified their curricula as a result of the suggestions of the Council. After a slight discussion of details both reports were adopted; the second is to be sent to all licensing bodies, and their observations embodied later in another document. In another issue we hope to deal more fully with this important subject.

MEDICINE AND THE LAW.

British Medical Association v. *The "Daily News," Limited.*

IN the King's Bench Division, before the Lord Chief Justice, on Nov. 29th, this case was mentioned, when it was announced that the action had been settled, the defendants agreeing to publish a disclaimer.

The defendant company are the proprietors of the *Star* newspaper, and on Sept. 2nd, 1926, the following article appeared:—

Our American cousins have an expressive figure of speech about the man who "bites off more than he can chaw." It might be applied with justice to the British Medical Association. While it confined its oppressive activities to bone-setters and other unregistered practitioners who could be dubbed quacks without fear of legal reprisals it was able to get away with it. Any criticism of its conduct could be contemptuously swept aside as the uninformed prejudice of the mere layman. When, however, it tried to discipline distinguished members of its own body it did in fact bite off more than it could chaw. Sir William Arbuthnot Lane, the President of the New Health Society, is the case in point at the moment. The B.M.A. does not like the society, for its motto is "Prevention rather than cure." To preach "health without doctors" is the unforgiveable sin to the medical monopolists, who have in the past imposed a very rigid etiquette of secretiveness on their close profession. Sir William appears to have had the courage to defy these

out-of-date conventions, and, contemptuous of the B.M.A.'s power to strike him off its register, is reported to have struck himself off. The B.M.A. can do—just nothing.

Mr. Stuart Bevan, for the British Medical Association, described that article as seriously defamatory of the Association, and of its policy and of its methods, the whole of the comments being entirely unjustified. On the institution of proceedings, without waiting for the action to come to trial, the defendants' advisers submitted to the plaintiffs the following statement which was read in court :—

It has been pointed out to us that an article published in the *Star* of Sept. 2nd, 1926, on the subject of the New Health Society and the retirement of Sir William Arbuthnot Lane (first President of that Society) from membership of the British Medical Association, has been construed as imputing improper motives and behaviour to the British Medical Association—particularly that the Association was oppressive upon medical practitioners, registered as well as unregistered; that its hostility to the educative methods of the New Health Society arose from a desire to prevent any improvement in the public health because this would involve loss of fees to medical men; and that the Association was actuated solely by the desire to benefit the medical profession without any regard whatever to public health or public interest.

We disclaim the intention of making any such imputations, and we are fully satisfied that such a conception of the work and outlook of the British Medical Association would be wrong in fact and unjust; and we regret any wrong impression which the publication of the article may have created.

Mr. Bevan then pointed out that the Association has itself been much concerned—and has caused research work to be undertaken—in the prevention of disease. Mr. Norman Birkett, for the defence, said that he agreed with the statement of the terms of settlement.

His lordship indicated his assent to the discontinuance of the action, each party being content to bear its own costs.

Damage from Horse-bite.

If a horse bites other horses is it to be deemed likely to bite human beings? The old idea that an animal is "allowed one bite" received fresh illustration lately in the High Court in the following circumstances. A man was crossing Ludgate-hill and passed in front of a stationary horse and van which were at the moment unattended. The horse was muzzled, but stretched out its head and made for the passenger's head, thereby injuring his face. Evidence (to prove what lawyers call the *scienter*) was called to establish that the horse had previously bitten another horse. A jury in the Mayor's and City of London Court awarded the plaintiff £25 damages, but the judge gave judgment for the defendants, and the High Court has confirmed his view. The jury had found that the horse was dangerous to other horses and also to mankind, but no evidence had been given to show that a horse which will bite another horse is likely to bite a human being. People, said Lord Sterndale, M.R., in Manton *v.* Brocklebank four years ago, are not safe in acting upon what they believe to be common knowledge without evidence. Lord Justice Scrutton quoted this remark with approval and added that horses are subjects upon which people often disagree.

The plaintiff put his case in this way. Horses, as we know them in the London streets, do not bite. Once you find a biting horse, you find an animal which is outside its class, and therefore must be deemed dangerous in the sense that its owner keeps it at his peril and is liable for any damage it may do. But, said the Lord Justice, there is no legal authority for the proposition that, if an animal is known to be dangerous in one particular way, its owner thereupon becomes liable for any other kind of damage it may do, however unexpected or unusual.

Friendly Society's Convalescent Home and Income-tax.

The Royal Antediluvian Order of Buffaloes has established a convalescent home at Redditch largely by subscriptions from within the Order. It is supported by the general funds of the Order, and the beneficiaries must be members of the Order, though only 20 or 30 patients out of 2,000,000 members could be accommodated at a time. The General Commissioners of Income-tax made an assessment of £180 gross (£146 10*s.* net) on the premises, but Mr. Justice Rowlatt has ruled that it is a "hospital" within Rule 1 (*c*) of No. VI. of Schedule A of the Income-tax Act. The Solicitor-General, who appeared for the Inland Revenue, seems to have admitted that the fact of the institution covering only a small field of hospital work did not prevent its being a "hospital." But the Crown argued that the home was really a private establishment which the Buffaloes could close at any time and that there was no such element of public charity about it as would entitle it to exemption from tax. The judge said it was unlikely that the activities of the home would be stopped and the profits thrown into the general funds of the Order. The home was an eleemosynary establishment maintained by the Order for the benefit of a few of its members. The fact that it was limited to members of the Order made no difference. A hospital established for the members of a profession or trade was not prevented from being a hospital within the meaning of the statutory exemption.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

German Orthopædic Congress.

THE German Orthopædic Society, at its annual meeting in Nuremberg, devoted considerable attention to arthritis. Prof. Heine (Rostock) opened a discussion on arthritis deformans, which, he said, is found most often in the knee-joint and less commonly in the elbow, hip, and shoulder. The knee is never affected before the fortieth year, and the hip before the fiftieth. Up to the age of 60 the disease is more often seen in men than in women. Pathologically it is a peculiar condition of the mesenchyma, depending on age and constitution. Dr. Krebs (Aachen) pointed out that X rays do not always reveal the cause of the pain, since it is often due to alterations of the joint-capsule and of the subchondral tissue. He considered that muscular atrophy is a result not of inactivity but of atrophic disturbances of a specific character. Hyperæmia is, he said, the essential curative agent, and may be produced by mud or other baths; after treatment at Aachen, 64 per cent. of the patients are able to work. Prof. Vulpius (Heidelberg) said that when the capsule was contracted the joint should never be extended with vigour, but very cautiously. Prof. Spitzy (Vienna) advocated stretching of contractions by a single manipulation. The aim of an operation should be ankylosis in the knee-joint but mobility in the hip. Dr. Kruz (Berlin) said that in women arthritic pain in the knee-joint usually develops between the fortieth and fiftieth year, a fact probably connected with diminished resistance at the climacteric and the increase of weight at that period. In the more acute cases fixation of the joint, in chronic cases a Hessing apparatus, and in less serious cases medico-mechanical treatment, is required.

In a discussion on scoliosis, Prof. Galeazzi (Milan) explained his method of curing scoliosis by gypsum dressing in stages on a special table in the horizontal position. Dr. Gaugele (Zwickau) said that old-standing scoliosis is the result of fixation and of compression, caused by the weight of the trunk, relaxation of muscles and ligaments, and general weakness. Whilst the fixation is not remediable, compression may be influenced by a gypsum dressing; in debilitated persons gymnastics are useful. Dr. Valentin (Hanover) spoke on heritable orthopædic conditions, and said that brachydactylia, syndactylia, Dupuytren's contracture, chondrofibromatosis, and a

tendency to habitual luxation of the shoulder are often hereditary. Dr. Maus (Berlin) referred to the familiar occurrence of club-foot. It is not yet ascertained, he said, why this condition is more frequent in males than females. Dr. Brandes spoke on retarded consolidation after osteotomy, which had occurred in 6 per cent. of his 4485 operations, and in his view had local causes. Dr. Simon (Frankfort) said that this retarded consolidation is fairly common in women between the ages of 18 and 25, and is caused by reduced vitality of the sclerotic bone. Dr. Königswieder (Vienna) agreed with this statement, and advised his hearers to abstain as far as possible from cosmetic operations at that age. He believed that endocrine troubles were responsible for the retardation.

Prosecution for Injury by Neglect.

Some time ago a medical man and a nurse were found guilty of injury by neglect because the nurse had forgotten to apply the filter in using X rays for curative purposes, the result being a severe burn. The court considered that it was the doctor's duty to ascertain whether the nurse had applied the filter; he had, however, left the room after having adjusted the apparatus. On appeal the High Court in Leipzig has cancelled the verdict so far as the medical man is concerned. It regards the application of X rays as a merely technical procedure, including the use of a filter in every case, and holds that the medical man was justified in believing that it had been employed in this particular case as in any other. Administration of X rays may be likened to that of a poisonous drug; it requires certain precautions, but is, as a rule, entrusted to trained nurses, no medical man being expected to supervise their administration personally if he has assured himself that the nurse is trustworthy. The case has, however, been referred back to the local court, because it had not been made clear whether the nurse was or was not sufficiently experienced to be left in charge by the doctor.

Dental Treatment in Russia.

Prof. Dauge, of Moscow, in a paper recently read before the Society of Socialist Medical Men, explained that in Russia dentistry is regarded as a special branch of general medicine like other branches, and that the dentist is expected to be familiar with medical science as a whole. In Leningrad and other places there are stomatological clinics with large staffs where some 9000 dental surgeons have already been trained. Whereas in Leningrad there were, five years ago, about 500 private dentists, there are now only 50. Dental treatment is carried out at 12 great dispensaries maintained by the State, where the working time of the medical man is only five hours daily.

Insurance against Accidents.

According to a recent statistical report there were in 1925 837,695 industrial concerns whose employees were insured against accidents, under the Workmen's Insurance Act, to the number of 11 millions. There were also 4,601,916 agricultural enterprises with 14 millions of workers, and 880,194 employees of the State and municipalities. The total number of insured persons was thus about 25 millions, being an increase of 1 million compared with the previous year. Compensation for the first time was secured by 107,517 persons, of whom 53 per cent. were industrial, 42·6 per cent. agricultural, and 4·4 per cent. employees in public works. The percentage of compensation payments for each 1000 accidents has much increased compared with 1924. The rate per 1000 was 5·2 (4·4) among industrial workers, 3·2 (2·6) among agricultural workers, and 5·4 (4·2) for State and municipal workers, the figures in parentheses being those for 1924. The increase is partly due to legal extension of insurance to the time of transport to and from work. The accidents were fatal in 7·5 per cent. of cases, and 1·1 per cent. of them caused total incapacity for work.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Deep X Ray Treatment in Dublin.

AN improved apparatus for treatment by deep X rays has been installed at the Royal City of Dublin Hospital, and the treatment rooms were publicly opened by the Governor-General last month.

The treatment room contains a switch-table which places the whole apparatus under the complete control of one operator. Projecting through the wall between the machine and treatment rooms are two large metal cylinders. Each cylinder, which can be raised or lowered by means of a motor mechanism, contains one X ray tube, thus enabling the simultaneous treatment of two patients, who are placed on couches either beneath or over the cylinders, according to the type of treatment being given. The cylinders, which weigh one ton each, are coated with lead a quarter of an inch thick, thus affording complete protection for the operator and enabling the doctor or sister to be in close touch with the patient, heretofore impossible owing to the grave risks run from stray radiation due to imperfectly protected apparatus. The facilities for treatment provided will be available for patients at other hospitals, and also for private patients on the recommendation of their own medical attendants.

University College Medical Society.

The opening meeting of the University College Medical Society was held at Dublin on Nov. 18th, Dr. D. J. Coffey, President of the College of Physicians, in the chair. The President of the Society for the coming session is Prof. J. M. O'Connor, who delivered an address on the Physiology of Equilibration. He described, with the aid of the lantern, the investigations carried out by the late Prof. Magnus of Utrecht, and laid stress on the fact that in these important experiments no expensive apparatus had been required, but that the coöperation of several workers, including skilled surgeons, had been essential. An interesting discussion followed the address, the speakers being Prof. H. Pringle, Prof. E. P. McLaughlin, Dr. H. Quinlan, and Dr. E. P. Freeman.

The Approved Societies and Medical Benefit.

The annual meeting of the Approved Societies Association of Ireland was held in Dublin last week. The annual report was concerned chiefly with the recent report of the Committee of Inquiry on National Health Insurance and the Medical Service. In the opinion of the Association the time has come for a comprehensive reform of the Poor-law medical services. If this cannot be achieved they favour a scheme of medical benefit for insured persons and their dependents, with an increase if necessary in the weekly contribution, not exceeding 3*d.* a week, or if this is not feasible, a scheme of medical benefit for insured persons only, with an additional weekly contribution not exceeding 2*d.*, the Association to be consulted in the preparation of the scheme. The report shows that there has been an abnormal increase in the benefit payments in 1926 and 1927 as compared with 1925; societies were probably not referring their doubtful cases to the National Health Insurance Commission for examination by the medical referee, which was provided free of cost. The report also dealt with the inadequacy of the Sanatorium Benefit Fund, and with the Departmental Committee's recommendations on workmen's compensation with regard to the National Health Insurance Acts.

Mr. J. D. Nugent, Secretary of the Ancient Order of Hibernians Approved Society, said that the International Labour Conference in Geneva last June had, in its recommendations, to a large extent adopted the system of health insurance in operation in Great Britain. Ireland was hampered because she had not such a system. The Geneva report had recommended

compulsory sickness insurance for all manual and non-manual workers, and that all insured persons should be entitled to free medical treatment. The scheme as it existed in Ireland did nothing to prevent or cure disease, but merely provided sickness benefit for members. Doctors were paid for issuing certificates entitling recipients to draw benefits, and the more they issued the greater their income.

At the annual dinner held in the evening of the same day Sir Joseph Glynn, chairman of the National Health Insurance Commission, replying to the toast of the Health Services, said that the number of insured persons in the Irish Free State was 450,000.

The Milk Commission.

It is stated that the report of the Milk Commission appointed by the Government of the Irish Free State in 1926 has been completed and presented to the Government. It has not yet been published, but it is understood to contain, among other recommendations: (1) grading of milk, (2) production under hygienic conditions, (3) closer supervision of distributive agencies, (4) periodic inspection of dairy farms, (5) veterinary inspection of milch cows, (6) more stringent regulations regarding licensing of dairies and distributing centres, and (7) heavier penalties for breach of regulations.

UNITED STATES OF AMERICA.

(FROM AN OCCASIONAL CORRESPONDENT.)

Prohibition and the Public Health.

FROM an analysis of death-rates in the pre-prohibition era of 1900–17 and the prohibition and post-influenzal period of 1921–26, Dr. Louis I. Dublin, of the Metropolitan Life Insurance Company, has attempted to evaluate the broad effect of prohibition on the public health. Taking the death-rate for the whole population (U.S. death registration area) he finds that a downward trend in the first period has not been maintained in the second. "If we had only these figures," he says, "the most favourable interpretation we could give would be that the prohibition amendment had come into effect at a time of low and declining mortality, and that the new legislation had no appreciable effect in still further improving the mortality of our people."

A somewhat more favourable interpretation is made possible by dissecting the death-rates according to age, sex, and colour distribution. It is then shown that as regards sex and colour there has been during the prohibition period an improvement limited to white females. Among men over the age of 35 there has, on the other hand, been a definite rise in mortality. Among children and adolescents the prohibition period coincides with a marked decline in mortality. "One might say," ventures Dr. Dublin, "that the facts are entirely consistent with an assumption that the conditions of life under the prohibition régime have been favourable to these groups; on the other hand, there is no evidence whatever of a favourable influence on adult men."

Examining the death-rates further by causes of death Dr. Dublin finds that at children's ages the greatest improvement has occurred in three groups—accidents, diarrhœal diseases, and pneumonia. Among the young women the decline noted above is largely traceable to a decline in the tuberculosis death-rate. To these ends the campaigns of popular health education may have contributed, and a rising standard of living must be held equally responsible. It is pretty generally agreed among social service workers that in the prohibition years there has been a marked improvement in the economic condition of the poorer classes. "The economic gains," concludes Dr. Dublin, "help us to understand the condition among women and children. The character of the present supply of liquor helps us to understand the lack of improvement which appears in the mortality of men." It is not quite clear whether Dr. Dublin accepts the improved economic condition as a result exclusively of the prohibition amendment. From some remarks early in his paper, presented to an open forum at the annual convention of the American Public Health Association, it would appear that he does not.

In connexion with the present prohibition situation in the States attention is being focused on the congressional election this month in the city of Denver (Colorado). The democratic candidate, Judge White, has openly declared for a modification of the Volstead Act; he is also pledged to a policy "restoring to doctors the right to prescribe liquor in such quantities for medicinal purposes as in their training and experience they find necessary." Judge White's candidature is strenuously opposed by the Anti-Saloon League, the W.C.T.U., and the great majority of the ministers of the Denver churches.

Control of Cancer.

For four years now the Wayne County Medical Society have carried on an annual campaign of education for the control of cancer by early diagnosis. Each year some 2300 citizens present themselves for examination during cancer week at the Detroit Hospital; each year from 15 to 20 per cent. of those examined are found to have cancer or some precancerous condition. The following short table of cancer diagnosed in the last two years shows that the amount of latent cancer in the community is apparently fairly constant.

Cases Diagnosed.

	1926.		*1927.*
Skin	47	....	43
Breast	18	....	29
Lip	9	....	11
Uterus and vulva ..	14	....	6
Other	6	....	12
Total	94	....	101
Precancerous conditions..	282	....	287

It will be observed that the inaccessible growths are not often diagnosed. Dr. Harry C. Saltzstein, the secretary of the Cancer Committee, points out that in 1925 and 1926 there were 761 recorded deaths from carcinoma of the stomach in Detroit; during this period there were 28 gastric resections for cancer done in all the hospitals of the city, with 15 operative recoveries. More facilities for diagnosis and treatment of cancer are needed, the committee concludes, and more "follow-up" work of the cases diagnosed.

New Medical Centre in New York.

A new medical centre will be formed by the amalgamation of New York Hospital and Cornell University in an institution to be called the New York Hospital Cornell Medical College Association. The building will be situated slightly to the north of the Rockefeller Institute for Medical Research, and the cost is likely to be 15,000,000 dollars (£3,000,000); towards this sum the General Education Board has appropriated 7,500,000 dollars. There will be about 415 public and 75 private beds, and a large out-patient department, whose cost is estimated at 11,000,000 dollars. A distinctive feature of the enterprise is the proposal to relieve the heads of the principal clinical departments from the toil of practice outside the institution; they will be salaried officers giving their whole time to patients, teaching and research. Dr. Robinson, who has been made director of the association, is at present director of Vanderbilt University, where he organised the medical department in 1920. He is a graduate of Johns Hopkins University, and was the first resident physician of the hospital of the Rockefeller Institute for Medical Research. It is interesting to recall that New York Hospital is the second oldest in the United States, having received its charter in 1771. Cornell University Medical College was established in 1898, and has been affiliated with the hospital since 1912.

Correspondence.

"Audi alteram partem."

EPSOM COLLEGE SANATORIUM.

To the Editor of THE LANCET.

SIR,—In your issue of Dec. 11th, 1926, you published a letter from the Chairman of Council of Epsom College appealing for financial help from the medical profession to enable the Council to build a new sanatorium and isolation block, which, while providing adequate accommodation for the needs of the College, would at the same time be a model for all other schools to copy. It was also pointed out that the present sanatorium, built many years ago, is uneconomical in working, and its arrangements and accommodation in many ways do not conform to modern hospital requirements, but could by a very moderate outlay be adapted as a school house for from 40 to 45 boys. The existing isolation block is a temporary wooden building, the licence for the use of which expires shortly, making imperative the erection of a permanent building in the near future. Cases of scarlet fever and diphtheria are not dealt with in the isolation block, but are sent direct to the isolation hospital of the local authority.

At Epsom, following the practice of some other public schools, no provision is made in the school houses for the treatment of cases of trivial illness, but all cases, however slight, are treated in the sanatorium. This plan ensures every case being seen by a trained nurse at an early stage, and by the medical officer, who is promptly summoned when necessary; but at the same time it also involves the provision of a larger number of beds than is necessary in those schools which have sick rooms in the school houses.

Experience shows that a well-planned sanatorium, with a properly apportioned number of large and small wards to accommodate 12 per cent. of the boys in the school, meets all reasonable requirements for both infectious and non-infectious cases, provided that if a widespread epidemic of any particular disease occurs, one of the school houses is temporarily converted to hospital purposes.

By adopting the plan which has proved so successful and free from risk in the hands of Dr. Friend, at Christ's Hospital, of housing infectious and non-infectious cases under one roof, but with separate means of access to each class of cases, the architects, Messrs. W. A. Pite, Son and Fairweather, have, at the request of the Council, designed a building which will be in every way a thoroughly up-to-date sanatorium, convenient and economical to work, and which it is estimated can be built for the moderate sum of £26,600.

Taking 400 as the maximum number of boys in the school, provision has been made for 20 beds for the non-infectious cases, and 30 beds for infectious cases, or 50 beds in all, with ample accommodation for the nursing and domestic staff. The details of construction are shown on the plans and dealt with fully in the memorandum accompanying this letter, so need not be further referred to here.

While the school fees paid cover the cost of the ordinary scholars, and the annual subscriptions and donations enable the Council to pay for the foundation scholars, an extraordinary expense, such as the provision of a new sanatorium, cannot be met without the aid of special contributions. It is for this reason that we venture to appeal to your readers to help the Council, and make possible the provision of a sanatorium built and equipped on the most modern lines and worthy of a school, a large proportion of whose scholars are the sons of medical men.

Donations received to date amount to £4207 19*s.* 6*d.*, but until at least £15,000 are in hand it will not be possible to proceed with the actual erection of the buildings.

We are, Sir, yours faithfully,

RAYMOND CRAWFURD,
Chairman of Council of Epsom College.
WILLIAM HALE-WHITE,
Treasurer.
ARNOLD LYNDON,
Chairman, Sanatorium Committee.

ORGANIC HYPNOTICS.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 19th are two letters from well-known manufacturing firms of chemists relating to organic hypnotics. This subject has been so fully discussed recently at the Royal Society of Medicine,[1] and in the correspondence columns of the *British Medical Journal*,[2] that I do not propose to embark on a further discussion.

The medical profession owes a great debt of gratitude to the discoverers of new drugs of proved therapeutic value. Perhaps the best example is that of salvarsan, which is one of the most valuable therapeutic discoveries of modern times. The manner in which salvarsan was brought before the medical profession by Prof. Ehrlich was a model of perfection. Not only were the uses of the drug clearly pointed out, but the fullest prominence was given to the contra-indications for its use. The dangers of toxic effects were clearly pointed out, and most valuable advice was given as regards that avoidance. In consequence of this, fatalities from poisoning by salvarsan and allied drugs have been comparatively few, when one bears in mind the enormous use to which they have been put and the well-known toxicity of the arsenobenzol derivatives. The medical profession owes a great debt of gratitude to Prof. Ehrlich, not only for his wonderful and beneficent discovery, but also for the exemplary care with which he introduced it.

In my paper before the Royal Society of Medicine I stated that the barbituric acid derivatives are perhaps the most commonly used hypnotics, and they have gained this position because of their rapid and certain action. The drugs of this group have a powerful therapeutic action, and if taken in excessive doses may give rise to toxic effects. It is advisable that the early toxic symptoms should be known so that they may be recognised before serious symptoms of poisoning develop. The dangers of possible addiction from their too long-continued use should be realised, since many medical practitioners have had a like experience to myself in meeting with cases of definite addiction from the prolonged daily use of these drugs. Numerous pamphlets have been circulated to the medical profession advertising the barbituric acid group of drugs. None of them, as far as I am aware, contains any reference to the dangers of addiction, and with the exception of those relating to luminal, I have never seen in any of them any warning as regards the danger of overdosage or of the early toxic symptoms to be looked for.

I have no desire to belittle the deservedly recognised therapeutic value of the barbituric acid derivatives. I am strongly of opinion that the firms responsible for the introduction and sale of these drugs should take the medical profession fully into their confidence and give a frank statement of the dangers of overdosage, the early signs of toxic effects, and the care and caution necessary in the use of the drugs. The esteem in which these firms are held by the medical profession would be thereby enhanced, and a feeling of confidence in the use of their drugs ensured. I am quite sure that by so doing there would be no danger of the sale of their remedies suffering in consequence.

I am asked to give statistics as regards dial fatalities. These are to be found in the Registrar-General's returns. From 1920 to 1926 inclusive six fatal cases of dial poisoning, and one of didial poisoning

[1] THE LANCET, 1927, i., 1037.
[2] Brit. Med. Jour., 1927, i., 877, 983, and 1125.

have been recorded. As examples of non-fatal cases I may be permitted to quote three out of many in which I have been consulted.

CASE 1.—Female (Mrs. X), suffering from facial neuralgia. Her doctor prescribed one tablet of dialacetin at 9.30 P.M., and one tablet to be repeated at 2 A.M. if necessary. The patient took two tablets of dialacetin, and after a short time a further two tablets. In addition to this two tablets of dial were given by her son. On the following morning at 7.30 o'clock, the patient was found to be comatose, the conjunctival reflexes were absent, the plantar reflexes gave an extensor response. Energetic treatment was adopted (strong coffee by nasal tube, colon washes, &c.). At 9.30 A.M. the patient could be aroused with difficulty, and the plantar reflexes became faintly flexor. At 1 P.M. consciousness had returned, but there was marked slurring of the speech. Headache persisted for 48 hours, and then recovery was complete.

CASE 2.—Female aged 50. Acute sciatica on left side for ten days. Treated with dial, one tablet three times daily for three days. On examination patient was drowsy, speech indistinct, tongue furred and could not be protruded, inability to move left arm, retention of urine for 24 hours. These symptoms were undoubtedly due to dial poisoning, and cleared up in 48 hours after strong coffee, purgatives, and colon washes.

CASE 3.—Male aged 34. Previous history of alcoholism. Had been under supervision and had taken no alcohol for seven weeks. During this period, while under strict medical supervision, had taken three or four tablets of allonal every night for insomnia. On examination speech thick and indistinct, gait ataxic. Diplopia present in the mornings for the last few days. This patient was also seen by Sir James Purves-Stewart, who concurred in the diagnosis of allonal poisoning. The symptoms disappeared after the discontinuance of the drug.

In conclusion, I would like to emphasise the importance of care and caution in the use of the barbituric acid derivatives. They are very valuable therapeutic remedies and, in my opinion, should be only used under medical supervision, and only taken on medical prescription. The medical profession looks for guidance and help from the introducers of these new remedies, so that they may be always safely and beneficially used.

I am, Sir, yours faithfully,

Welbeck-street, W., Nov. 26th. W. H. WILLCOX.

PICTORIAL HEALTH PROPAGANDA.

To the Editor of THE LANCET.

SIR,—In an annotation in your last issue entitled Health Education of the Public, attention is called to a valuable number of *The World's Health* containing pictorial propaganda. Some public health workers will be disappointed to read one or two sentences in this annotation—e.g., "Twenty minutes a week devoted to the simple things of health in every school would within ten years do away with the need for most of the posters and pamphlets which Dr. Sands deals with so well." This statement, I suggest, seems too strong; while possibly it contains as much truth when looked at from all points of view as any arguments which can be adduced against its verity, on the other hand, some people hold the view, perhaps a crude one, that many children, rightly or wrongly, regard what they learn in school as something to be forgotten as soon as they are released from its bonds, and others think that not a few children regard their lessons as dealing with matters entirely divorced from real life. It is not necessary perhaps to pursue this line of thought further; I would pass on to suggest that it is all to the good that essential health requirements should be presented in pictorial form in order that such teaching may be absorbed and made part of the belief and life not only of children but, above all, of young and even older adults.

Many interested in pictorial health propaganda must think that the lesson intended to be inculcated by some of the material produced, especially in this country and the United States of America, is of so vague and general a character as to be almost useless. The pictorial propaganda produced in Germany has to answer the criticisms that it is more suitable for a class in physiology than for the general public; a few examples of French pictorial propaganda are, perhaps, more works of art than lessons in hygiene, but all these countries have produced very telling pictures inculcating precepts of the greatest value for the maintenance of health and the prevention of disease. Some of these pictorial lessons are more appropriate to adults than children, anyhow it is only adults who can apply them practically.

The National Association for the Prevention of Tuberculosis has just got out a useful poster showing a woman sewing in her very neat and perhaps too comfortable home—certainly it does not look poverty-stricken—she is a consumptive striving to keep her home and family together instead of going to a sanatorium. The picture presumably tells prospective care committee workers and the public generally that someone should see that such women are placed in such a position as to be able to accept the offer of sanatorium treatment.

I am, Sir, yours faithfully,

C. W. HUTT,
Nov. 28th, 1927. M.O.H. for Holborn.

THE LATE DR. H. P. CHOLMELEY.

To the Editor of THE LANCET.

SIR,—I had just read the obituary of your colleague, Dr. H. P. Cholmeley, in THE LANCET when I had occasion to consult "Prudentius." As I took the volume from my shelves I noticed from an elegant Latin inscription on the fly-leaf that it was the gift of my old Eton and Oxford friend.

We travelled together in Persia and Kurdistan and I well remember his dentistry with a pair of universal forceps on a Kurdish chief and his operation on another Kurd, when Cholmeley and a native doctor, who had studied under the American missionaries, removed a piece of diseased bone from the arm of the grateful Kurd, who presented his surgeons with a pair of socks between them! I believe Cholmeley kept his "first fee" to the day of his death.

Cholmeley, as is said in the obituary notice, was quite unsuited to general practice; he certainly had not the "bedside manner." To a patient who said "What is the matter with me, doctor?" Cholmeley replied: "I don't know, but perhaps I may know to-morrow." I hope your professional readers will forgive a layman for saying that I do not trust many of them at death-beds. But I could trust Cholmeley absolutely, and it was a compact between us that when I was seriously ill I should send for him, because he would tell me when I was going to die—a thing which surely every man has the right to know that he may have time to put a few necessaries together for the journey. Now, alas, my friend has set out before.

Of his literary attainments, his courtesy to all, his tenderness to animals, his sense of humour I could add much to what you have already said. But I will sum him up by saying that to me and to all who knew him well he was like the famous Sir Thomas Browne, of Norwich, an honourable physician and a cultured Christian gentleman.

I am, Sir, yours faithfully,

ATHELSTAN RILEY.
Manoir de la Trinité, Jersey, Nov. 17th, 1927.

THE ABUSE OF FORCEPS.

To the Editor of THE LANCET.

SIR,—The other day I attended my first confinement case with a new district nurse. As I was about to put on forceps after a very prolonged second stage she remarked: "I suppose the os is nearly fully dilated now, is it, sir?" I half jokingly replied: "You're not accusing me of putting on forceps before the os is fully dilated, are you, nurse?" "Oh, well," she said, "where I've come from one doctor always used to put on forceps when the os was five shillings. He saved me a lot of time." Comment is superfluous.

I am, Sir, yours faithfully,

Nov. 21st, 1927. ASTOUNDED.

THE "TONSIL" QUESTION.

To the Editor of THE LANCET.

SIR,—Mr. Stoker's article in your issue of Nov. 26th is a fair statement of a controversial matter. May I make a few remarks on one subject which interests me. I have had opportunity to treat many cases of chronic otorrhœa at aural clinics of the school medical service. Before coming to a clinic the larger number of these patients have had their tonsils removed and yet otorrhœa exists. A smaller number have had no operation on the throat. This number may be subdivided into those without inflamed tonsils and a few who show signs of definite inflammation. Treatment of the ears of these last is not likely to be successful without operation. Of the large number outside this group, some of whom have had operation and some not, treatment of the ears shows the same result; recurrence of the otorrhœa, in those in whom it has been cured, does not seem to be more frequent in those who have not been submitted to operation than in those who have.

I think that a more or less general practice of removing adenoids and tonsils for chronic otorrhœa arose from the striking results which occasionally followed the operation. If it is permissible to form an opinion it seems to me: (1) from observing those cases of otorrhœa in which an operation has been performed, that in many patients the operation has little effect on otorrhœa; (2) from observing those cases in which the tonsils are not inflamed and in which treatment is confined to the ear, that it is quite unnecessary to remove tonsils and adenoids as a routine measure in chronic otorrhœa.

I do not wish to make an objection to the treatment of tonsils and adenoids based on other indications of their effects, but I think that in a large number of cases of chronic otorrhœa the presence of discharge from the ear is not a reason for removing tonsils and adenoids.

I am, Sir, yours faithfully,

London, W., Nov. 28th, 1927. A. R. FRIEL.

CARLSBAD WATERS.

To the Editor of THE LANCET.

SIR,—It may be of interest to your readers to know that the medicinal waters of Carlsbad—from which resort I have just returned after sampling it in November with enjoyable and satisfactory results—are now admitted into England free of duty. Hitherto the customs authorities were under the impression that the Sprudel, Schlossbrunnen, Mühlbrunnen, and other waters could be used as table beverages. No one could try the experiment with impunity. It is always well to have medical advice before drinking Carlsbad waters, especially away from their source.

I am, Sir, yours faithfully,

ROBERT DONALD.

Rutland-gate, S.W., Nov. 28th, 1927.

THE NUTRITIVE VALUE OF BREAD.

To the Editor of THE LANCET.

SIR,—In regard to the interesting and valuable paper of Dr. Cramer and Dr. Mottram on the nutritive value of bread, may I recall the observations made 16 years ago by Martin Flack and myself?[1] We showed then the great superiority of Hovis over white standard and wholemeal bread, owing to the germ included in Hovis. Our rats were bedded on chaff, and fed on bread and water only. On Hovis the rats not only flourished but bred to the third generation. Germ is not only rich in vitamin B, but in vitamin E which is required for breeding.

I am, Sir, yours faithfully,

LEONARD HILL.

National Institute for Medical Research, Hampstead, N.W., Nov. 24th, 1927.

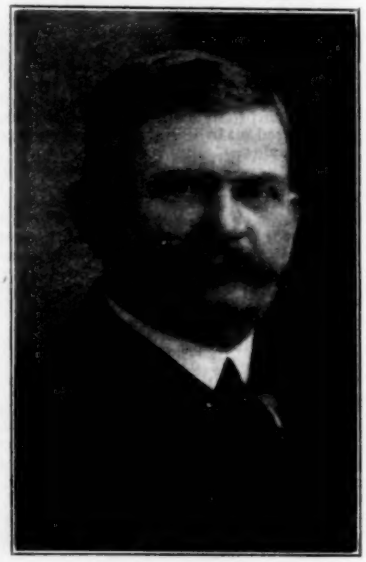
[1] Brit. Med. Jour., 1911, i., 1068 and 1310; ii., 597, 949, 1330.

Obituary.

RICHARD HENRY ANGLIN WHITELOCKE, M.D. OXF. AND EDIN., M.CH. EDIN., F.R.C.S. ENG.

WE announced last week the death of Mr. Anglin Whitelocke, the well-known surgeon to the Radcliffe Infirmary and Litchfield Lecturer on Surgery in the University of Oxford.

Richard Henry Anglin Whitelocke was the fourth son of Mr. Hugh Whitelocke, of Bulstrode Park, Westmorland, formerly a member of the Executive Council of Jamaica. He was born in 1861, and received his preliminary education at Owens College, Manchester, and from there proceeded as a medical student to the University of Edinburgh. He graduated M.B., B.Ch. in 1884 with honours, and having taken in the same year the diploma of M.R.C.S., he proceeded to hold various resident appointments in Glasgow, Edinburgh, and London. In Glasgow he acted as house surgeon to Sir William Macewen, one of the foremost exponents of Listerian surgery at that epoch. In Edinburgh he held an ophthalmological post, and in London was a clinical assistant at Moorfields. For a time he was engaged in holding private classes in anatomy, and this gave a bias to the whole of his future career. In 1888 he settled in Oxford with a view to practise as an ophthalmologist, but on realising there was no opening he entered general practice, but always with the intention of becoming a pure surgeon. He acted as Prof. Arthur Thomson's first demonstrator in anatomy, and worked steadily for the Fellowship of the Royal College of Surgeons of England, a diploma which he obtained in 1893. His opportunity came six years later when he proved a successful candidate for a post on the surgical staff of the Radcliffe Infirmary. He speedily became known in Oxford and also over a large county area as a surgeon of great skill and resource.



R. H. ANGLIN WHITELOCKE.

His reputation was perhaps specially made in connexion with joint injuries and sprains, for Oxford provided, through its various athletic activities, a fine field for his talents. Alike on the running course or the football field he was in request for all casualties among the undergraduates. He acted for many years as consulting surgeon to the University Rugby Football Club, and many of his patients now scattered over the face of the earth will read of his death with real regret. When, in 1909, he wrote his well-known book, "Sprains and Allied Injuries of Joints," he supplied information of the first assistance to all who have to deal with these too often obscure injuries. The Rontgen rays had at this time been in use for over ten years, but no one had pointed out so clearly as Whitelocke of what assistance they could be in the diagnosis of injuries of the joints. It may be

that before Rontgen's discovery clinical surgery had rendered easy the recognition of ordinary dislocations, but on numerous and slight cases of injury, commonly called sprains, a flood of light was thrown by the proper employment of the X rays. The value of Whitelocke's treatise lay in the attention which he devoted to the minor injuries of joints, and the teaching was made all the clearer by instruction in the use of massage and of passive exercises, and by an account of bandages and liniments suitable to particular conditions. He followed this work up with various essays upon football injuries, athletics in relation to disease, and the technique of bone operations, and became a recognised authority both in Oxford and in London, where he had for a time consulting rooms. He was appointed Litchfield Lecturer on Surgery at the University of Oxford, and consulting surgeon to the Great Western and London and North-Western Railways. In the proceedings of the Royal Society of Medicine, where at one time he served as president of the Section of Pediatrics, many useful contributions from his pen will be found, while in 1914 he contributed to the *British Journal of Surgery* two valuable papers respectively on loose bodies in the knee-joint and on dislocations of the patella.

During the war Whitelocke had charge, with the rank of Lieut.-Colonel, of the Third Southern General Hospital, and made full use of the opportunities then offered for operative surgery, while at the close of hostilities his services were still in demand as a specialist to the Ministry of Pensions. But that Whitelocke was more than a specialist was proved by a valuable paper which he read before the Royal Society of Medicine in 1920 on appendicectomy by a new route. The operation was planned for the removal of the vermiform appendix through the right iliac fossa in cases where general exploration of the abdominal cavity was not called for, that is to say, in acute rather than in chronic cases, and the deviser of the operation set out its advantages from the anatomical and surgical aspects with remarkable clearness. There was much in the paper that invited discussion, but Whitelocke was speaking from the unusually strong position of having practised what he preached for over 12 years, while he quoted the results of 843 consecutive operations performed at all stages of the disease, whether simple or complicated, and at ages ranging from 3 to 79 years. The mortality-rate was 2·25 per cent. and no hernia or weak scars had occurred.

In Oxford Mr. Whitelocke will be deeply missed. From the outset of his career in the city he was a great supporter of the local medical societies, and was seldom absent from gatherings either of the Oxford Medical Society or the British Medical Association, and was always ready to open or take part in a discussion. He was an honorary Master of Arts of Lincoln College, and was also one of the six original members of the Oxford Medical Club, a club started in Oxford in 1891 with a membership limited to 12, and with the object of reading papers and discussing subjects unconnected with medicine. Only two of the original members remain, Prof. Arthur Thomson and Dr. William Collier, and from these gatherings Whitelocke was seldom absent. He was a considerable traveller, and it was, in particular, a source of regret to him that ill-health this year prevented him in joining his surgical colleagues in a visit to Madrid.

Mr. Whitelocke had not been in really good health since the war, though the announcement of his death came as a surprise to many of his friends. He married Barbara, eldest daughter of the late Mr. G. L. Reid, M.I.C.E., of Brighton, and leaves three daughters and three sons, the younger of whom is in medical practice in Oxford.

EDWIN JOHN GURDON, M.R.C.S. ENG.

Dr. E. J. Gurdon, who died on Nov. 19th, came of an old Suffolk family and was born at Saxmundham some 70 years ago. He received his medical education at St. Thomas's Hospital and at Brussels, and in the early eighties went to Australia for the sake of his health, which was always indifferent. He soon had a large consultant practice in Melbourne, but a taste for adventure took him further afield to the Australian goldfields, at first to Condobolin in New South Wales and later to Western Australia. Here his administrative abilities were used on behalf of the Western Australian Medical Service, and his last appointments were as resident magistrate of the well-known pearling towns of Onslow, Shark Bay, and Derby (Kimberley). At the outbreak of war, although there was no special call on him, he came back to England and worked for two years at Winterton in Lincolnshire, thus releasing a younger man for active service. After the Armistice he took a small country practice at Beaumaris in Anglesey, where he was able to live the country life he loved. He was a good shot and a keen sportsman, and kept at work until the day before his death.

Dr. Gurdon's only son died in the war. He leaves a widow and a daughter.

Parliamentary Intelligence.

HOUSE OF LORDS.

TUESDAY, NOV. 29TH.

Royal Edinburgh Hospital Bill.

The DUKE OF SUTHERLAND, Paymaster-General, moved the first reading of the Royal Edinburgh Hospital for Mental and Nervous Diseases Order Confirmation Bill.

The motion was agreed to.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 23RD.

Production of Vaccine Lymph.

Mr. GROVES asked the Minister of Health what processes were adopted after the collection of the lymph material from calves for vaccine, and what substances were added to it; and why such substances were added.—Sir KINGSLEY WOOD, Parliamentary Secretary to the Ministry of Health, replied: The lymph material collected from calves for vaccine is weighed and reduced to an emulsion with a known weight of a diluent consisting of glycerine, distilled water, and oil of cloves. The diluent is used to bring the lymph material to a suitable consistency, and to get rid of extraneous bacteria.

THURSDAY, NOV. 24TH.

Fraudulent Descriptions of Foodstuffs.

Viscount SANDON asked the Minister of Health whether his attention had been called to the use of fraudulent descriptions in toffee, ice-cream, and other foodstuffs; and whether he would take powers to secure the provision of definitions of food titles in order to eliminate misconception where it existed.—Sir KINGSLEY WOOD replied: If a purchaser demands an article of food under one of the descriptions referred to, it is a question for determination by the court under the Sale of Food and Drugs Acts whether the article sold complies with the description. There is no prescribed standard of composition, and my right hon. friend does not think that the circumstances are such as to justify further legislation.

Cost of Food and Drugs Inspection.

Mr. CECIL WILSON asked the Minister of Health the approximate cost, during each of the last five years, incurred by local authorities in the inspection of foods and drugs, the number of prosecutions for offences, the number of convictions, and the amount of fines imposed; and in how many cases imprisonment had followed conviction.—Sir KINGSLEY WOOD replied: I am circulating a statement of the expenditure and receipts of local authorities in connexion with the work in question during the last five years for which the figures are available. The receipts shown in the statement are principally derived from fines and costs recovered in successful prosecutions. My right hon. friend regrets that the other particulars asked for in the question are not available.

The statement is as follows: Expenditure and receipts of local authorities in England and Wales in connexion

with the prevention of adulteration, &c., of foods and drugs :—

Year.	Expenditure.	Receipts other than from rates.
	£	£
1920–21	108,493	5866
1921–22	113,075	5719
1922–23	107,269	5092
1923–24	109,019	5397
1924–25	114,080	5188

Mr. WILSON : If they are not available now can they be made available for the future ?—Sir KINGSLEY WOOD : I cannot give the hon. Member particulars of the prosecutions and convictions ; I am afraid it is impossible to get them.

Production of Vaccine Lymph.

Mr. GROVES asked the Minister of Health (1) how the carcasses of calves used in connexion with the procurement of vaccine lymph were actually disposed of and (2) what steps were taken in respect to vaccine lymph to ensure that only healthy calves were used.—Sir KINGSLEY WOOD replied : The calves used at the Government lymph establishment are carefully inspected on arrival and are constantly under observation, their temperatures being frequently taken. After the production of lymph the calves are slaughtered and examined by a veterinary expert, and only the lymph from calves certified as healthy is used for vaccination. The carcasses are at the disposal of the person who supplied the calves, and those sold for food are subject to further examination by officers of the local sanitary authorities.

Cost of Health Insurance Administration.

Mr. THOMAS WILLIAMS asked the Minister of Health what was the cost of administering the National Health Insurance funds for the insurance year ended July, 1927, and the percentage this constituted of the total expenditure. —Sir KINGSLEY WOOD replied : The audited accounts of approved societies and insurance committees are made up only in respect of calendar years, and the cost of administration for the insurance (contribution) year ended July, 1927, cannot be stated. For the calendar year 1926 the total cost (including cost of the central administration) was £5,060,000, constituting 13½ per cent. of the total expenditure.

The Smoke Abatement Act.

Mr. ROBERT WILSON asked the Minister of Health whether he could make any statement as to the working of the Smoke Abatement Act.—Sir KINGSLEY WOOD replied : The Act came into force only on July 1st last. I may say, however, that by-laws as to the emission of black smoke have been approved for a number of authorities. Some regional advisory committees have been set up. A Draft Order extending the Alkali Acts has been prepared and considered with representative bodies and the statutory inquiry will be held next month.

The Small-pox Danger.

Sir ARTHUR HOLBROOK asked the Minister of Health whether his attention had been directed to the increase in cases of small-pox during the past few months ; and whether he would consider the introduction of legislation in order to protect the community from this danger.—Sir KINGSLEY WOOD replied : As regards the first part of the question my right hon. friend is aware that small-pox is still prevalent in some parts of the country, but the number of cases notified during recent months is considerably smaller than the numbers notified in the early months of this year. As regards the second part, my right hon. friend is awaiting the report of the Committee on Vaccination, which was appointed last year, before considering the question of further action on this subject.

Slum Clearance Schemes.

Mr. GILLETT asked the Minister of Health the number of persons it was proposed to displace in connexion with the slum clearance scheme in the borough of Finsbury ; and whether provision would be made for rehousing those so displaced within the borough.—Sir KINGSLEY WOOD replied : 205 persons will be displaced in connexion with the Metropolitan Borough of Finsbury (White Horse Alley) Reconstruction Scheme, 1926, and rehousing accommodation for this number is being provided by the borough council in flats which are in course of erection at Mantell-street within the borough.

Mr. ERNEST BROWN asked the Minister of Health what total subsidy had been actually paid by the Government since Jan. 1st, 1919, towards the cost of slum clearances, and in any other way to help directly with the slum problem.—Sir KINGSLEY WOOD replied : The total sum paid on account by Exchequer subsidy towards the cost of slum clearances since April 1st, 1924, is £103,000.

FRIDAY, NOV. 25TH.

Government and Mental Deficiency Bill.

Sir HERBERT CAYZER asked the Prime Minister whether the Government intended to give facilities for the passing into law this session of the Mental Deficiency Bill.—Mr. BALDWIN replied : The Government may be able to find time for this Bill, but the final decision must, of course, depend on the state of business.

MONDAY, NOV. 28TH.

Nursing Homes (Registration) Bill.

Dr. VERNON DAVIES asked the Prime Minister if he would grant facilities before the end of this session for the Nursing Homes (Registration) Bill.—Mr. BALDWIN replied : I can make no promise in regard to time being given for Private Members' Bills, as the final decision must of course depend on the state of business.

Dr. VERNON DAVIES : Is the Prime Minister aware that the differences between the opponents of the Bill are so fundamental that unless he uses his power to pass the Bill the grave irregularities and scandals which were disclosed before the Select Committee appointed by this House will go on unchecked to the detriment of the health of the patients in some nursing homes.

No answer was given.

Cost of Small-pox in Durham.

Captain MACMILLAN asked the Minister of Health if he was aware that the recent outbreak of small-pox in the Easington union of the county of Durham had cost the ratepayers a sum of £16,000, equivalent to a rate of 8*d.* in the £, and that in every case it was proved that the person attacked by the disease had either not been vaccinated at all or had not been vaccinated within the previous 15 years. Mr. CHAMBERLAIN replied : I have no official information as to the cost of this outbreak. The returns made to my department show that no person under the age of 15 years contracted small-pox who had been vaccinated prior to infection.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED NOV. 19TH, 1927.

Notifications.—The following cases of infectious disease were notified during the week :—Small-pox, 226 (last week 258) ; scarlet, fever, 2320 ; diphtheria, 1509 ; enteric fever, 154 ; pneumonia, 972 ; puerperal fever, 49 ; puerperal pyrexia, 111 ; cerebro-spinal fever, 10 ; acute poliomyelitis, 19 ; acute polioencephalitis, 4 ; encephalitis lethargica, 31 ; continued fever, 1 ; dysentery, 5 ; ophthalmia neonatorum, 80. There was no case of cholera, plague, or typhus fever notified during the week.

Of the 154 cases of enteric fever 76 were notified from the county of Hertford, where there was a milk-borne outbreak of paratyphoid, 71 being from Hemel Hempstead (U. and R.D.), 4 from Watford (R.D.), and 1 from St. Albans.

Deaths.—In the aggregate of great towns, including London, there was no death from small-pox, 7 (2) from enteric fever, 50 (11) from measles, 5 (0) from scarlet fever, 4 (0) from whooping-cough, 35 (13) from diphtheria, 65 (13) from diarrhœa and enteritis under two years, and 67 (15) from influenza. The figures in parentheses are those for London itself. The deaths from enteric fever outside London occurred in Birmingham 2, Leicester 1, Stockport 1, and Cardiff 1. The number of stillbirths registered during the week was 273 in the great towns, including 54 in London.

THE LATE MR. A. BOLLES LEE.—We are asked to say that copies of the portrait of Mr. A. Bolles Lee, which was published in the *Journal of Pathology and Bacteriology* for last July, may be had from the Editor at 17, Loom-lane, Radlett, Herts.

HOSPITAL BEDS IN THE SHEFFIELD DISTRICT.—At the suggestion of the Ministry of Health a regional conference of all the hospital authorities in the Sheffield district has just been held to consider the availability of beds between Poor-law and voluntary hospitals. It was stated that in the Sheffield area there are 2111 and in the outside districts 1077 patients unable to get beds. The Poor-law institutions have 50 vacant beds, and there are others vacant in the Doncaster Poor-law hospital and in the Worksop area.

Medical News.

UNIVERSITY OF OXFORD.—At a congregation held on Nov. 26th the degree of Doctor of Medicine was conferred on B. G. Scholefield.

An Examination at the University of Oxford for a *Radcliffe Travelling Fellowship* (annual value £300, tenable for two years) will begin on Feb. 14th. Candidates must have passed all the examinations required for the degrees of B.A. and B.M., and not more than four years must have elapsed since they passed the last examination. Intending candidates should communicate with the Regius Professor of Medicine, at the University Museum, before Feb. 1st.

The *George Herbert Hunt Travelling Scholarship* is awarded without examination every second year to a graduate in medicine of the University (of either sex) who has not exceeded five years from the date of passing the final examination for the B.M. degree. The successful candidate is required to travel abroad for not less than three months for the purpose of clinical study or research in medicine. Preference is given to candidates who intend to practise as surgeons or general practitioners. The next election will be made next April, and applications should be sent to the Dean of the School of Medicine, at the University Museum, before Feb. 14th.

UNIVERSITY OF LONDON.—At recent examinations the following candidates were successful:—

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

With Special Knowledge of Psychiatry.—Frederick Back, J. N. Jacobson, J. M. Mackenzie, J. J. O'Reilly, and Morris Robinson, M.B., B.S.

With Special Knowledge of Mental Deficiency.—E. C. T. Emerson.

SOCIETY OF APOTHECARIES OF LONDON.—At recent examinations the following candidates were successful:—

Surgery.—E. E. Bowen, Middlesex Hosp.; W. B. Hallums and H. T. Ince, St. Mary's Hosp.; M. H. Rashwan, Guy's Hosp.; H. T. Rylance, Middlesex Hosp.; M. E. Tscheuschner, Berlin and Charing Cross Hosp.; T. de L. Walker, King's College Hosp.; and R. W. Wood, St. Bart.'s Hosp.

Medicine.—A. F. J. D'Arcy and P. F. Fanaken, St. Mary's Hosp.; T. M. Joseph, London Hosp.; I. O. B. Shirley, St. Thomas's Hosp.; and M. E. Tscheuschner, Berlin and Charing Cross Hosp.

Forensic Medicine.—A. F. J. D'Arcy and P. F. Fanaken, St. Mary's Hosp.; L. W. Sanders, Manchester; M. E. Tscheuschner, Berlin and Charing Cross Hosp.; and J. L. M. Wood, Sheffield.

Midwifery.—J. S. Bury, Manchester; G. N. Fox, St. Bart.'s Hosp.; A. Hamid, Middlesex Hosp.; T. M. Joseph, London Hosp.; A. K. Rama Chandra, Edinburgh; and M. E. Tscheuschner, Berlin and Charing Cross Hosp.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: A. F. J. D'Arcy, P. F. Fanaken, T. M. Joseph, M. E. Tscheuschner, and T. de L. Walker.

DONATIONS AND BEQUESTS.—The Royal Manchester Children's Hospital during the past month has received legacies and donations amounting to £3498, including £1000 from Mrs. G. M. Goodbehere, £900 from the late Martha Jane Guest, and £500 each from the Ancient Order of Frothblowers and Messrs. Peel and Co., Ltd.—Lord Cable of Ideford, Calcutta, Bishops Teignmouth, Devon, and Grosvenor-square, W., merchant, left, besides many other bequests, over £60,000 to charities, including £22,450 to the Calcutta General Hospital.—Mr. Joseph Cuthbert, Sheffield and Bridlington, on the death of his wife, gives £500 each to Sheffield Royal Infirmary, the Sheffield Royal Hospital, the Sheffield Children's Hospital, the Jessop Hospital for Women, St. Anne's Convalescent Home, Bridlington, Lloyd's Hospital, Bridlington, and the Sheffield Blind Institution.—Blackburn Royal Infirmary has received £2000 under the will of Mrs. Stewart, late of Lynwood-road, Blackburn, to endow two cots.—Mr. C. F. Edwards, of Highfield, Lathom, left £10,000 to charities including £1000 to the Ormskirk Cottage Hospital and Dispensary.—Miss Violet Wells, of Haytor, Devon, has given a second donation of £1000 to the new Crippled Children's Hospital, Exeter, just opened by the Duchess of York.—Mrs. Robert Clayton, of the Turrets, Rishton, has given £1000 to the Blackburn and East Lancashire Royal Infirmary to endow a bed in memory of her late husband.—Mr. William George Evans, of Craven Arms, Salop, retired medical practitioner, left estate of the value of £17,672. After numerous bequests he gave the residue of the property in equal shares to King's College Hospital (his old hospital) and the Royal National Lifeboat Institution.—Mr. Ben Woodhead, Woodville, near Burton-on-Trent, left £1000 to the Burton-on-Trent General Infirmary.—Mr. A. W. Bowburn, of Northbury Booths Hall, near Knutsford, has sent a cheque of £2000 to the Knutsford Hospital for a new children's ward.—Mr. Douglas Cow, of Streatham, has sent a cheque for £1000 to the Queen Charlotte's National Mother-Saving Campaign, and has applied for 1000 of its Cradle Bonds.—The Victoria Infirmary, Northwich, has received during the present year £1000 from the Northwich and District Hospital Saturday Committee.

UNIVERSITY OF STRASBOURG.—Honorary degrees were recently conferred in person on Dr. G. H. F. Nuttall, F.R.S., Quick Professor of Biology at Cambridge, and Sir Charles Sherrington, O.M., F.R.S., Waynflete Professor of Physiology at Oxford.

ROYAL SOCIETY OF MEDICINE.—Dr. Alice Bloomfield has been granted an extension of the William Gibson Research Scholarship for a third year. The next award of the scholarship will therefore be made in June, 1929.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.—The Langley Memorial Prize, which was founded by a friend of the late Dr. W. H. Langley, principal medical officer of Southern Nigeria, has been awarded to Dr. A. S. Burgess, of Accra, Gold Coast, West Africa, for his paper the Selection of a Strain of *Bacillus pestis* for the Preparation of Vaccine, with Special Reference to the Effect of Animal Passage on Virulence.

HARVEIAN SOCIETY OF LONDON.—The awards in connexion with the Buckston Browne prize for the best essay on the Pathology, Diagnosis, and Treatment of New Growths Originating in the Walls of the Urinary Bladder are as follows: Mr. L. R. Fifield, F.R.C.S., £100 and medal, proxime accessit, Mr. M. F. Nicholls, F.R.C.S., £10. An epitome of the prize essay will be read by Mr. Fifield at the next meeting of the Society, to be held at the Town Hall, Paddington, on Thursday, Dec. 8th, at 8.30 P.M. The presentation of the medal and cheques will take place at the annual general meeting, which will be held at 8.30 P.M. on Jan. 12th, at 11, Chandos-street, W. 1.

ROYAL AIR FORCE MEDICAL SERVICE.—The annual dinner of the Royal Air Force Medical Service was held at the Connaught Rooms, London, on Friday, Nov. 25th, the Director, Air Vice-Marshal David Munro, C.B., C.I.E., being in the chair. The interesting point of the dinner was that the Chairman, in proposing the health of the guests, for whom Lieut.-General Sir Matthew Fell, the Director-General, A.M.S., responded, dealt in a frank way with the difficulties which at present exist in the recruiting of medical officers. He admitted the need for more officers, but gave reasons for believing that there were factors likely to make the shortage less acutely felt, and others which would attract a sufficient number of entrants. He emphasised especially the alteration in the proportion of officers serving overseas to those at home, due to reductions in Iraq and expansion at home; and the increase in the proportion of permanent officers due to the decision by the Warren Fisher Committee to allow a 50 per cent. chance of getting a permanent commission to all short service officers. The shortage of officers and frequent changes of personnel caused, he pointed out, embarrassments in making a selection for training young permanent officers, for the replacement later on of those engaged in various branches of professional work. The Service required good surgeons, pathologists, and physicians in its hospitals, and also experts in dealing with the medical and physiological problems peculiar to aviation, as well as ophthalmologists and otologists. At the present moment the supply was adequate, but the shortage stopped opportunities for study leave, and without study leave the necessary courses of special training could not be obtained. In connexion with officers serving at small aerodrome stations, he pointed out that these were the men who could not get leave owing to shortage, and that their work, often single-handed and without a well-equipped hospital in the background, was monotonous, even while it had to be of good quality. To meet the drawback it was intended, he said, to give better opportunities for practice to these officers by removing the bar on their retaining none but the lightest cases in sick quarters, and by encouraging a freer use of their cottage hospitals, whose equipment would be revised, while arrangements would be made for extra assistance when required. A measure of executive responsibility over the medical personnel on the station would also be granted—a most valuable way, said the speaker, of teaching officers to take general responsibility. He announced the imminent creation of new posts for wing commanders. Air Vice-Marshal Munro closed by referring to the opening of the Halton Hospital (see THE LANCET, Nov. 5th, p. 995, &c.), where the medical training for medical officers and medical airmen would inculcate Service methods in a Service atmosphere at the initial stages.

Mr. Percy James Kelly, M.B., Ch.B. Glasg. (Surgeon-General), has been appointed a member of the Executive Council of the Colony of British Guiana for a further period.

LONDON HOSPITAL.—The Bernhard Baron Institute of Pathology will be opened by Sir Humphry Rolleston on Tuesday, Dec. 6th, at 3 P.M.

A WOMEN'S POOR-LAW HOSPITAL.—A new women's hospital, erected by the Wirral, Cheshire, board of guardians, at a cost of £30,000, has been opened at Clatterbridge. The building has accommodation for 112 patients and comprises surgical and medical sections, each with a 28-bed ward, a 12-bed ward, and a large number of smaller wards.

EXPERIMENTAL FARM FOR CANCER RESEARCH.—Mr. Harold Sutcliffe and his brother, Mr. Norman Sutcliffe, have purchased the Lumley Hall estate of 21 acres and a manor house at South Milford, near Selby, and have presented it to the Yorkshire Council of the British Cancer Research Campaign, to be used as an experimental farm, for the purpose of carrying out experiments upon large animals. Dr. R. D. Passey, Director of Cancer Research in the University of Leeds, will live on the farm.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—On Monday, Dec. 5th, at 5 P.M., at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., Dr. R. Travers Smith will speak on Practical Hints in Medicine. This lecture is free to members of the medical profession. A daily course of lecture-demonstrations in the in- or out-patient department of the West End Hospital for Nervous Diseases is now in progress. From Dec. 5th to 17th, at 2 P.M., at the Infants Hospital, there will be a course primarily for medical officers of welfare centres; visits will be paid to various centres. Between the same dates, at the Blackfriars Skin Hospital, a course will be given, including two special demonstrations of cases. In January courses will be held in medicine, surgery, and the specialties at the Prince of Wales's General Hospital; in diseases of children at the Children's Clinic; in cardiology at the National Hospital for Diseases of the Heart (entries limited to 20); and in psychological medicine at the Bethlem Royal Hospital. Information, syllabuses of special and general courses, and tickets may be had from the Secretary of the Fellowship, 1, Wimpole-street, London, W. 1.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the Committee 49 cases were considered and £676 voted to 40 applicants. The following are notes on some of the cases relieved.

Widow, aged 54, of M.R.C.S. who died suddenly this year. Left with two sons and one daughter, all of whom are training. Applicant hopes to have about £65 per annum when her husband's estate is settled. Her private income is £20 per annum, and she has a resident post at £28 per annum. Asks for help to meet second son's fees up to Christmas. Voted £35.

Widow, aged 43, of M.B. Lond. who was recently removed to a mental hospital as a free patient. Has two girls and a boy. Eldest girl at a boarding school paid for by her godmother. Boy at a boarding school and the youngest is with applicant. They are now living on the amount received from the sale of the practice and the money is nearly exhausted. The Fund is asked to help with the boy's school fees as applicant hopes to manage to meet her other expenses by sweet-making and needlework. Voted £21 10*s*.

Widow, aged 74, of M.D. Lond. who died in 1915. She has maintained herself by teaching, but owing to age and ill-health finds it difficult to continue. Her expenses are about £2 a week and her income is derived from the Freemasons (£56 per annum) and a merchants' Guild (£40). Fund voted £30 in two six-monthly instalments.

Daughter, aged 50, of M.D. St.And. who died in 1880. Was brought up by a sister and since leaving school has maintained herself. Now only able to get temporary posts. Voted £5 and asked to let the Fund know how she is getting on.

Daughter, aged 55, of L.R.C.P. Edin. who died in 1878. On her brother's marriage in 1907 was left without means and had to support herself. A relative allows her 10*s*. a week and for some time she has been living on her savings which are rapidly becoming exhausted. Some friends have given her hospitality temporarily. Voted £26 in four quarterly instalments.

Widow, aged 58, of L.R.C.P.I. who practised in Lancashire and died in 1911. She has maintained herself and daughter since the death of her husband, but owing to indifferent health is not able to do heavy work and is now only earning 10*s*. a week while the Irish Medical Benevolent has sent her £15. Voted £20.

Widow, aged 62, of M.D. Edin. who died in 1906. Left with a son and daughter. The daughter, now 29, is a dispenser at £2 10*s*. a week, but does not live at home. Son, aged 26, suffers from defective hearing and is only able to get odd work, which amounts to about 15*s*. a week; he is otherwise dependent on his mother, whose total income amounts to about £90 per annum, less rates at £10 10*s*. a year, the house belonging to applicant. Total Fund grants £30. Voted £18, a renewal of previous grant.

Subscriptions may be sent to the honorary treasurer, Sir Charters Symonds, at 11, Chandos-street, Cavendish-square, London, W. 1.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting will be held on Friday, Dec. 9th, at 8.45 P.M., at the Miller General Hospital, Greenwich, when Mr. Victor Bonney will deliver the Purvis Oration, his subject being Puerperal Sepsis.

NATIONAL COUNCIL FOR MENTAL HYGIENE.—Dame Mary Scharlieb and other speakers are to address a public meeting, to be held at the College of Nursing, Henrietta-street, Cavendish-square, W., on Friday, Dec. 9th at 4.45 P.M. Lord Southborough will preside.

SAFEGUARDING OF KEY INDUSTRIES.—The Treasury have made an order exempting the following articles from Key Industry duty until Dec. 31st, 1928: bromural (dormigene), eukodal, lithium carbonate, lithium hydroxide, nickel hydroxide, papaverine, potassium permanganate, quinine ethyl-carbonate, resorcin (resorcinol), and styracol (guaiacol cinnamate).

HOME OFFICE INDUSTRIAL MUSEUM.—The Home Office Industrial Museum, Horseferry-road, Westminster, will be open to the public from Monday next. It contains a permanent exhibition of methods and appliances for securing the safety, health, and welfare of the workers in factories and other industrial processes which come under the administration of the Home Office. The King and Queen intend to pay a private visit to the museum to-day, Dec. 2nd.

INTERNATIONAL COURSE IN PUBLIC HEALTH.—The medical officers of foreign countries who are in London to attend this course visited the Institute of Hygiene on Nov. 29th, and, in the unavoidable absence of the President, Sir Thomas Oliver, were received by Lieut.-Colonel R. H. Elliot. Members of the course have recently visited many institutions in and around London, including the laboratories of the Metropolitan Water Board, the Royal Sanitary Institute, the Museum of the London School of Hygiene and Tropical Medicine, the Houses of Parliament, the Maudsley Hospital, and London County Council school treatment centres. To-morrow (Saturday) they are going to see the Treloar Cripples' Home at Alton.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—A luncheon was held at the Savoy Hotel on Tuesday, Nov. 29th, to launch the appeal which Mr. A. A. Milne is making for £20,000 for the hospital, £10,000 of which is needed to pay off a debt, £5000 in annual subscriptions to ensure the required income, and £5000 to provide an additional operating theatre and eight extra casualty beds to deal with the motor and other accidents brought to the hospital. Mr. H. B. Figgis, the hon. treasurer, was in the chair, and Sir William Collins, the Marquis of Campden, Mr. Bransby Williams, the Bishop of Willesden, and Mr. George Waugh (the senior surgeon) also spoke. An amusing and moving appeal from Mr. Milne was circulated, to the terms of which we hope to refer later.

ROYAL DENTAL HOSPITAL OF LONDON.—The annual dinner of the staff and past and present students was held on Nov. 26th, at the Trocadero Restaurant, under the chairmanship of Mr. J. S. Amoore. Among the guests were Sir William Goschen, who has just been appointed chairman of the hospital; Prof. W. H. Gilmour, President of the British Dental Association; Mr. L. G. Brock, of the Ministry of Health, Dr. A. W. Oxford, and the Deans of the Middlesex and King's College Hospitals. After the loyal toast the Chairman proposed the health of the Past and Present Students. Looking back, he said, what struck him most was the difference between the way in which diseases of the teeth were regarded in 1880 (when he had last spoken at the annual dinner) and the present attitude towards them. The importance of dentistry was at long last beginning to dawn upon the public, and looking forward, he saw a time when the needs of dental hospitals would be more fully recognised and when these institutions would not have to be largely supported, as they were at present, by the profession itself. Mr. H. C. Cooper replied for the past and Mr. H. L. Hill for the present students. Dand the ean, Dr. Stobie, gave a summary of the present position of the school. The numbers of the students had dropped from 135 to 104 in the last year, but this had been anticipated some years ago, and was the normal reaction from the big influx just after the war. The entries this term, on the other hand, had been 23 as compared with 14 in 1926. The teaching staff were trying their best to benefit the post-graduate as well as the present students, and to that end had taken steps to form some kind of amalgamation with the general hospitals. This amalgamation had already taken place for social and athletic purposes with Charing Cross Hospital, and this was a step in the right direction. Other speakers during the evening were Sir John Rose Bradford and Mr. W. H. Dolamore.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY, Dec. 6th.—8.30 P.M., ORTHOPÆDICS. Discussion on Fractures of the Spine. Opener: Mr. Geoffrey Jefferson. Other speakers: Dr. George Riddoch, Dr. Bertram Shires, Mr. George Stebbing, and Mr. St. J. D. Buxton. 8.30 P.M., PATHOLOGY. Laboratory meeting at the Laboratories of the Imperial Cancer Research Fund, 8–11, Queen-square, W.C. Papers and demonstrations: W. Cramer: An Experimental Study of Precancerous Conditions. A. M. Begg and J. A Murray: Histopathology and Histogenesis of a Filtrable Endothelium of the Fowl. J. A. Murray: Demonstration of Preparations of Lymph Nodes of the Fowl. R. J. Ludford: Microchemical Cytology (demonstration). Other papers and demonstrations.

WEDNESDAY.—5 P.M., HISTORY OF MEDICINE. Papers: Fleet Surgeon W. E. Home, R.N.: Francis Home, 1719–1813, Professor of Materia Medica in Edinburgh. Surgeon Rear-Admiral Sir Reginald Bankart: A Note on the "Weekly Medico-Chirurgical and Philosophical Magazine." 4 P.M., SURGERY. Meeting at St. Thomas's Hospital, S.E. 4.30 P.M., Tea in the Shepherd Memorial Hall. 4–5 P.M. In the Jenner Laboratory: Demonstration of Rapid Diagnosis of Tumours by Staining Scrapings by Prof. L. S. Dudgeon and Mr. C. V. Patrick. In the Physio-Therapeutic Dept.: Demonstrations by Drs. Timberg, J. B. Mennell, and Baucus. In the X Ray Dept.: Demonstrations by Drs. Fildes and Shires. In the North Theatre: Operations by Mr. Howarth and Mr. Romanis. 5 P.M., in the Clinical Theatre. Demonstration of selected cases by Mr. P. Sargent. Demonstration of Genito-urinary cases by Mr. C. Nitch. Demonstration of a group of cases by Sir Cuthbert Wallace. Demonstration of cases showing the results of operation for Osteoarthritis of the Hip by Mr. C. Max Page. Demonstration of Orthopædic cases by Mr. W. Rowley Bristow.

THURSDAY.—5.30 P.M., BALNEOLOGY. Samuel Hyde Memorial Lecture: Dr. Whitridge Davies: Problems and Opportunities for Research in Spa Treatment. 8.30 P.M., NEUROLOGY. Discussion on Traumatic Neurasthenia and the Litigation Neurosis, to be opened by Sir Farquhar Buzzard, followed by the Right Hon. H. P. Macmillan, Sir James Purves-Stewart, Dr. Risien Russell, Dr. W. A. Brend, and Dr. W. Salisbury Sharpe.

FRIDAY.—5 P.M., OPHTHALMOLOGY. Clinical meeting at the Royal London Ophthalmic Hospital, City-road, E.C. Tea at 4.30 P.M. Cases, including a number for slit-lamp, will be shown. A demonstration will be given of apparatus for exercising heterophoria and squint cases. 5.30 P.M., CLINICAL. (Cases at 5 P.M.) Cases: Dr. George Rossdale: (1) A Case of Still's Disease Cured by Intercurrent Diphtheria. Dr. Donald Hunter: (2) A Case of Co-arctation of the Aorta. Dr. D. Evan Bedford: (3) A Case of Primary Sclerosis of the Pulmonary Artery; (4) Aneurysmal Dilatation of the Pulmonary Artery in a Case of Congenital Heart Disease. Mr. Cecil P. G. Wakeley: A Case of Lymphangioma of the Tongue.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

THURSDAY, Dec. 8th.—A meeting will be held at 11, Chandos-street, Cavendish-square, preceded at 7.45 P.M. by a demonstration illustrating the subject of the lecture. The chair will be taken at 8.15 P.M. and Dr. William Fletcher will give an address, illustrated by lantern slides, on Recent Work on Some Malayan Fevers.

BIOCHEMICAL SOCIETY.

FRIDAY, Dec. 9th.—4.45 P.M. (in the Imperial College of Science Metallurgy Theatre, Royal School of Mines, Prince Consort-road, South Kensington). Communications: H. Henderson Smith, M. Hume, and I. Smedley MacLean: On the Presence of Vitamin A and Provitamin D in Yeast Fat. W. T. J. Morgan and R. Robison: Dephosphorylated Methylhexosides Derived from Hexosediphosphoric Acid. J. Pryde and E. T. Waters: Organic Phosphates from Rabbit's Muscle. H. R. Hewer, H. Jairam, and S. B. Schryver: The Chemical Changes Taking Place in the Proteins of Muscular Tissue when Passing into Rigor. H. J. Holman and S. B. Schryver: The Basic Hydrolysis Products of Certain Plant Proteins, and Their Method of Separation. E. J. Candlin and S. B. Schryver: The Relationship of Pectin to Hemicellulose. E. C. Grey: Studies on the Nutrition of Pigeons. R. K. Christy and W. Robson: Estimation of Chlorides in Biological Fluids.

HUNTERIAN SOCIETY.

MONDAY, Dec. 5th.—7.30 P.M., Dinner at Simpsons Restaurant, Bird-in-Hand-court, Cheapside. 8.30 P.M., Discussion on Backache, to be opened by Dr. David Barcroft, Mr. C. Lambrinudi, and Mr. G. A. Macdonald.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, Dec. 5th, to SATURDAY, Dec. 12th.—FELLOWSHIP OF MEDICINE. Lecture at Medical Society, 11, Chandos-street, Cavendish-square, W. Mon., 5 P.M., Dr. R. Travers Smith: Practical Hints in Medicine.—HOSPITAL FOR DISEASES OF THE SKIN, Blackfriars-road, S.E. Special course, afternoons only.—INFANTS HOSPITAL, Vincent-square, S.W. Afternoon course.—WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck-street, W. Post-graduate course in Neurology. Every afternoon at 4 P.M. until Dec. 17th. Further information from the Secretary, Mayfair 2236.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, W.

MONDAY, Dec. 5th.—10 A.M., Dr. Dowling: Skin Department. 11 A.M., Mr. Tyrrell Gray: Surgical Wards. 2 P.M., Dr. Trevor Davies: Gynecological Department.

TUESDAY.—11 A.M., Mr. Endean: Demonstration of Venereal Diseases. 2 P.M., Dr. Shaw: Medical Out-patients. 2 P.M., Mr. Sinclair: Surgical Out-patients. 4.30 P.M., Dr. Pritchard: Diabetes Mellitus (lecture).

WEDNESDAY.—10 A.M., Dr. Burnford: Medical Wards. 2.30 P.M., Mr. Donald Armour: Surgical Wards. 4.30 P.M., Mr. Donald Armour: Head Injuries (lecture).

THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Department. 2 P.M., Mr. MacDonald: Genito-urinary Department. 2 P.M., Mr. Bishop Harman: Eye Department.

FRIDAY.—10 A.M., Dr. Pritchard: Special Medical Treatment Clinic. 12 noon, Dr. Redvers Ironside: Clinical Demonstration. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Department.

SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy Department. 10 A.M., Dr. Owen: Medical Diseases of Children.

Medical and Surgical Out-patients, Operations, Special Departments, daily, 10 A.M. to 5 P.M., Saturdays, 10 A.M. to 1 P.M.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY, Dec. 6th.—5 P.M., Dr. W. Griffith: Eczema (1).

THURSDAY.—5 P.M., Dr. W. Griffith: Eczema.

ROYAL NORTHERN HOSPITAL, Holloway-road, N.

TUESDAY, Dec. 6th.—3.15 P.M., Dr. C. M. Hinds Howell: Disorders of Sensation and their Clinical Significance.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley-road, Balham.

THURSDAY, Dec. 8th.—4 P.M., Mr. J. S. Joly: Clinical Demonstration of Urology Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY, Dec. 8th.—4 P.M., Dr. Schlesinger: Complications of Pneumonia.

PEOPLE'S LEAGUE OF HEALTH.

THURSDAY, Dec. 8th.—6 P.M. (at 11, Chandos-street, Cavendish-square, W.), Dr. T. Beaton: Brain and Nervous Symptoms.

UNIVERSITY OF SHEFFIELD POST-GRADUATE CLINICS.

FRIDAY, Dec. 9th.—3.30 P.M., Dr. Abercrombie: Brachial Neuritis.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE COURSE.

TUESDAY, Dec. 6th.—4.15 P.M., Mr. J. P. Buckley: Femoral Hernia, its Ætiology and Treatment.

FRIDAY.—4.15 P.M., Dr. W. M. Roberts: Gastric Analysis in Clinical Medicine and Research.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.

TUESDAY, Dec. 6th.—4 P.M., Sir George L. Cheatle: Some Recent Views upon Carcinoma as Applied to the Colon. Discussion to be opened by Prof. T. Price.

FRIDAY.—4 P.M. Case Reading and Discussion in which all medical practitioners are invited to take part.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell-square, W.C.

WEDNESDAY, Dec. 7th.—4 P.M., Dr. L. R. Lempriere: The Health of the Public School Boy.

CHADWICK PUBLIC LECTURES.

MONDAY, Dec. 5th.—5.15 P.M. (in the Barnes Hall, Royal Society of Medicine, 1, Wimpole-street, W., Colonel P. S. Lelean: The Mind and Health.

Appointments.

BRAMWELL, J. CRIGHTON, M.D. Manch., has been appointed Honorary Consulting Physician to St. Mary's Hospitals, Manchester.

FISHER, S. W., M.D., B.Ch. Dub., Medical Inspector of Mines under the Coal Mines Act, 1911.

SMITH, S. A., M.D., Ch.B. Edin., Professor of Forensic Medicine in the University of Edinburgh.

SYMNS, J. L. M., M.D., B.Chir., Camb., District Medical Officer (Medical Referee) to the Scottish Board of Health.

Vacancies.

For further information refer to the advertisement columns.

All Saints' Hospital for Genito-Urinary Dis., Vauxhall Bridge-road, S.W.—Res. Sen. H.S. and Non-Res. Jun. H.S. At rate of £200 and £150 respectively.

Ashton-under-Lyne District Infirmary.—H.S. At rate of £150.

Barnsley, Beckett Hospital and Dispensary.—H.P. At rate of £140.

Barnstaple, North Devon Infirmary.—H.S. At rate of £150.

Basingstoke, Park Prewett Mental Hospital, nr. Basingstoke, Hants.—Med. Supt. £950.
Birmingham, Queen's Hospital.—Surg. Reg. £100.
Birmingham and Midland Homœopathic Hospital and Dispensary. H.S. £150.
Brighton, Royal Sussex County Hospital.—Hon. Med. Clin. Asst.
Chichester, Graylingwell Mental Hospital.—Jun. M.O. £300.
Croydon County Borough.—Asst. M.O.H. for Tuberculosis. £750.
Derbyshire Royal Infirmary, Derby.—Ophth. H.S. £150.
Dreadnought Hospital, Greenwich.—H.P. and H.S. Each at rate of £110.
Exminster, Devon Mental Hospital.—Jun. Asst. M.O. £300.
Godalming, Surrey, King George V. Sanatorium.—Jun. Asst. M.O. £500.
Hampstead General and North-West London Hospital, Haverstock Hill, N.W.—Cas. Surg. O. and H.S. Each at rate of £100.
Leeds, Jewish Herzl-Moser Hospital.—Res. M.O. £50.
London Homœopathic Hospital, Great Ormond-street, W.C.—Three Res. M.O.'s. At rate of £100.
London Hospital, E.—Cardiographic Dept. Paterson Research Scholar. £400.
London Jewish Hospital, Stepney Green, E.—Hon. M.O. for Dept. for Dis. of Skin.
London Lock Hospital, 91, Dean-street, W.—H.S. At rate of £200.
Manchester, Ancoats Hospital.—H.S. At rate of £100.
Manchester Babies Hospital, Burnage-lane, Levenshulme.—Jun. Res. M.O. At rate of £50.
Manchester Royal Children's Hospital.—Radiologist. £250.
Manchester Royal Infirmary.—Asst. M.O. £35.
Metropolitan Hospital, Kingsland-road, E.—Phys. to Dept. for Diseases of Skin.
Nigeria.—Four M.O.'s for Tsetse-fly Investigation. Each £660.
Perth Infirmary.—H.P. Also Jun. H.S. Each £75.
Plymouth County Borough.—Asst. M.O.H. £750.
Preston and County of Lancaster Queen Victoria Royal Infirmary. Two Hon. Asst. M.O.'s to X Ray and Light Depts.
Queen Mary's Hospital for the East End, Stratford, E.—Res. M.O., H.P., H.S.'s., &c.
Reading, Royal Berkshire Hospital.—H.P. At rate of £150.
Royal Northern Hospital, Holloway, N.—H.S. At rate of £70.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—H.P. At rate of £100.
St. Bartholomew's Hospital, E.C.—Surg. Also Phys. to Skin Dept.
St. John's Hospital for Dis. of the Skin, 49, Leicester-square, W.C. Pathologist. £100.
St. Marylebone Hospital, Ladbroke-grove, W.—Third Asst. M.O. £300.
Salford Royal Hospital.—Res. Surg. O. £200. Also two H.S.'s., H.P., and Cas. H.S. Each at rate of £125.
Salford Union Infirmary, Hope, Pendleton, Salford.—Two Asst. Res. M.O.'s. Each £275.
Sheffield Royal Infirmary.—Two H.S.'s., Asst. Cas. O., and Jun. Aural and Ophth. H.S. Each at rate of £80.
Stamford, Rutland and General Infirmary, Stamford.—H.S. At rate of £200.
Stoke-on-Trent, City of.—Res. Asst. Tuberculosis O. £500.
Stockport Infirmary.—Asst. Surg. O. to Ophth. Out-patient Dept. Also Asst. Surg. O. to Aural Out-patient Dept.
Swansea Hospital.—H.S. to Ophth. and Aural Depts. £150–£200.
Todmorden Borough.—M.O.H. and S.M.O. £800.
Western Ophthalmic Hospital, Marylebone-road, N.W.—Sen. and Jun. Non-Res. H.S.'s. At rate of £150 and £100 respectively.
Wigan Infirmary.—Third H.S. At rate of £150.
Willesden General Hospital, N.W.—Vacancy on Hon. Med. Staff.
The Chief Inspector of Factories announces a vacant appointment for a Certifying Factory Surgeon at Halifax (York. W.R.).

Births, Marriages, and Deaths.

BIRTHS.

CORNER.—On Nov. 22nd, at Welbeck-street, W., the wife of Dr. William Corner, O.B.E., Iraq Health Service, of a daughter.
PATEY.—On Nov. 23rd, the wife of David Howard Patey, M.S., F.R.C.S., of a son.

MARRIAGES.

LISTON—LESCHER.—On Nov. 23rd, at St. James', Spanish-place, W., Reginald Prosper Liston, M.B., Ch.B., of Milner-street, Cadogan-square, S.W., to Katharine Mary, eldest daughter of T. Edward Lescher, O.B.E., and Mrs. Lescher, of Birkdale, Lancs, and London.

DEATHS.

HALLIWELL.—On Nov. 26th, after a short illness, Thomas Halliwell, M.R.C.S., L.R.C.P., of The Rowans, Lowther-hill, Forest Hill.
MONRO.—On Nov. 21st, at Carlton-road, S.E., suddenly, the Rev. Charles G. Monro, B.A., M.B., B.C., Organising Sec. B.C.M.S., formerly of Ranaghat Medical Mission and Incumbent of St. Silas', Glasgow, Capt., late R.A.M.C.
MOORE.—On Nov. 23rd, in London, following an operation, Dr. G. E. Moore, of Redcroft, Maidenhead, aged 77.
ORAM.—Nov. 28th, after a short illness, in his fifty-third year, Walter Charles Oram, M.D., of 72, Rodney-street, Liverpool, son of the late John Earle Oram, of The Royal University, Dublin, and Professor of Experimental Science in King's College, Windsor, Nova Scotia, and beloved husband of Mabel W. Oram.
STEWART.—On Nov. 23rd, at Cleveland, Claremont-road, Surbiton, after a short illness, Cameron R. Stewart, L.D.S., D.D.S.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Comments, and Abstracts.

THE CALDECOTT COMMUNITY.

SINCE the speaker and chairman were held up by the fog, the general meeting of the Caldecott Community, fixed for Saturday last, had to be postponed, but the children's revue was ample reward to those who overcame the difficulties of travel. Opened in 1911 as a nursery school in St. Pancras, the Community became in 1917, at the suggestion of some of the parents, a country boarding-school for slum children. The minimum fee of 10*s.* a week covers but a quarter of the cost of upkeep, and there is no assured income. Yet in spite of untold odds against it the Community flourishes, and those who have experienced the inspiring atmosphere of adventure and service that permeates it know that its break-up would be a real loss to the country. "The time has come," says the last annual report, rather pathetically, "when the Community can stand a little wealth; for no amount of wealth would alter now the standard of simple life, at which it has arrived by necessity and which by freewill it would maintain, believing it to be the happy mean between a life of deprivation and a life of opportunity and pleasant toil." No servants are kept, and the necessary work of daily life is shared by children and teachers alike.

At present there are 44 boys and girls, of all ages from 2 to 17. In addition to being a sociological experiment of absorbing interest, the Community is also a research institute of the most severely practical psychology. The aim is to give every child individual psychological consideration and close personal study, and most of the children offer very complicated problems. The academic teaching is almost entirely individual; the children work under a system which allows them for the most part to plan their own lessons, and ample time is given to outdoor work, Dalcroze eurhythmics, scouting, and cubbing. The economy of the system is proved by the fact that, although only four hours a day are given to study, no child has ever failed to take his or her proper place in class when transferred to a secondary school, and they are far ahead of their classmates in physical fitness. Their crying need at the moment is for a playground, and it is typical of the Community that their chief appeal for financial aid is couched in the words of a pupil's letter home: "And then, there's our playing field: it's all mud in winter, and all we can do is to play tip-and-run in the backyard, with the buckets turned upside down for wickets—which Miss Hayward (she's our secretary) says is a scandal because they get so battered (but she doesn't play)—and when Harrod's van comes in, we have to break up the game till it goes, and Edgar *will* always get in it, though he knows it means going to bed and upsetting the sides; and if you knock a ball over the wall or through the kitchen window it counts out instead of a boundary."

An essential part of the scheme is the continuous constructive interest taken in all the old pupils. It is obvious that the experiment must stand or fall by the extent to which it leads its children into suitable careers. The Community is a training ground for the young worker as well as for the young child, for girls fresh from school may put in a short time learning child and house management. They could hardly find a happier place to learn in.

Last year a nativity play was produced, under the watchful care of grown-ups; this year, in healthy reaction, the children demanded to be allowed to produce a revue "all by themselves." The result, consisting of a circus, a tournament, a dialogue between Mrs. 'Arris and Mrs. 'Iggins, a Haydn ballet and the Joly, Joly Wat carol, followed by a Christmas revel, will never be forgotten by anyone who sees it. Besides illustrating the amazing natural talent which all children possess but very few have the opportunity of displaying, it has the haunting beauty of a creative masterpiece. It is to be played again on Friday, Dec. 9th, and Saturday, Dec. 10th, at 4.45 P.M. On the latter date the adjourned general meeting will also take place at 4 o'clock, and Dr. Crichton Miller will give an address. Only the foolish or the unfortunate will fail to secure tickets from Miss Potter (Caldecott House, Goff's Oak, near Cheshunt, Herts); the journey by road or rail is an easy one. Sir Michael Sadler has described the work of the Community as "one of the most interesting educational things in England," and the keynote of it is sincerity and "delight in simple things," freedom from affectation and false standards. There can be few places where the real and the ideal come so close together.

THE INDUSTRIAL ARTS.[1]

THIS is a short and clear history of the development of the industrial arts, with special reference to their practice

[1] By Frederick J. Glass. University of London Press. 1927. Pp. 511. 12*s.*

as educational factors. It is a useful and informative book, which, while it is a guide to hand-training in education, makes an agreeable appeal to the general reader. We can imagine no better introduction to a knowledge of the numerous handicrafts, for the technical instruction is clear, while at the same time a love of the beautiful and a taste for work are encouraged. The range of the book is large, for it starts with a description of the habitation of the primitive cave, and proceeds to consider in order the more advanced types of dwellings evolved during the progress of civilisation. This guide to the evolution of the structure of the house is followed by chapters dealing with its furnishing, and thus there is introduced in a logical way information on the various employments of fabrics—metals, leather, clay, glass, and so forth. As an example of the simplicity of the teaching the notes on furnishings show how the doll's house may be upholstered, and on this the use of tools, the mechanism of joints, and the history of furniture are made to depend. In the section which deals with transport, Mr. Glass shows a keen appreciation of the curves exhibited by marine vessels, and he stresses the educational value of the observation of boats and the attempt by children to fashion them when on seaside holidays. The final section on trees should develop a love of nature and encourage any latent artistic faculty in the pupil. The book is well and copiously illustrated, and its author, who is headmaster of the School of Arts and Crafts at Doncaster, writes evidently from full knowledge of the fine results that may be obtained from such instruction as he offers.

A READING DESK FOR THE INVALID.

WE have received from Mr. H. H. Arnold, of 81, St. George's-road, London, S.W.1, an appliance which he has named the "Readeasy" and which is intended primarily to enable invalids to read a book without in any way putting a strain upon the arms or hands. To the sides and lower border of a light tubular U-shaped metal frame, moulded to the contour of the body, is attached an adjustable strap to be suspended from the neck. Projecting from the frame, and adjustable as to inclination, is a narrow shelf for holding a book. There are conditions where this reading desk should prove of use in illness or convalescence, while the traveller on board ship would also on occasion find a use for the invention. And for all of us the apparatus might add to the comforts of the armchair.

MEDICAL WOMEN AND THE STUDY OF MENTAL DISEASE.

MEDICAL women who are interested in the problems of mental disease have formed an association for friendly relationship and discussion of their common problems. The second meeting was held at the Lyceum Club on Nov. 18th, by invitation of Dr. Bertha Mules and under the chairmanship of Dr. E. Casson. After lunch the subject of occupational therapy was discussed. Dr. Jane Walker described the varieties of work and handicraft tried for tuberculous patients at Nayland. Dr. Casson emphasised the danger of providing employment irrespective of the patient's therapeutic needs, and referred to the status of the occupational therapy officer, who should have direct relationship with the doctor, she thought, and should not be under the direction of the matron. Miss Phillips described the initiation of occupational therapy at Virginia Water, and urged the medical profession to get this work under proper control from the start, lest it fall into the hands of quacks. Another question discussed was whether the occupational therapy should be carried on in the wards, where apathetic patients might be attracted and drawn in, or in a special department to which the patients would be taken for so many hours each day. The general opinion seemed to be that the two methods dealt with two different classes of patient, and both should play their part. Dr. F. M. Gamble pointed out that occupational therapy could successfully begin while patients were still confined to bed. Several speakers emphasised the importance of providing outdoor work for women patients. Miss F. Gribble described the work of the Association of Occupational Therapists in trying to organise the work and the workers, and to provide a central bureau and a standard of training. After tea Dr. C. Shearer opened a discussion on the treatment of the uncertified patient. All were agreed that there was a shocking lack of adequate treatment for these people, and the establishment of clinics in every town was urged. The staffing of these clinics was a matter of some difference of opinion, but most speakers thought that the senior medical officer should be a member of the staff of a mental hospital, while assistants might be recruited from among local practitioners and part-time junior officers in mental hospitals. Other urgent needs were for more hospitals like the Lady Chichester Hospital at Hove and St. Andrew's Hospital at Northampton, and for trained social workers.

Medical women who wish further particulars can obtain them from Dr. I. G. Wilson, 154, Clarence Gate-gardens, N.W.1.

THE PRESENT STATE OF THE MEDICAL PROFESSION IN JAPAN.

THE *Internacia Medicina Revuo*, the official organ of the Association of Esperanto Doctors, for November, contains several articles of professional interest and a further small instalment of a new Esperanto Medical Dictionary. In addition, there is an account of the present state of the medical profession and medical organisations in Japan by Koh-Itabashi, which states that while the majority of medical men in Japan have private practices, the difficulty of making a living becomes more and more hazardous, although the number of doctors in relation to the total inhabitants remains stationary. It would appear that the poorer classes are increasing in number, the writer including in these classes small tradesmen and manufacturers, the cause of the increase being attributed to the accumulation of capital in the hands of the few. Another factor in the depreciation of medical practice is the unequal distribution of doctors among the population. Official figures are given which show that there are too many doctors in the urban areas, particularly Tokio and Kioto, and too few in rural parts. With regard to organisations for medical treatment of the poor in Japan, the following particulars are given: (1) medical school clinics, where a definite number of sick are treated free in order that instruction may be provided for medical students; (2) medical organisations supported by private philanthropy and philanthropic bodies—(*a*) "Saiseikuai," founded in 1911 by imperial donations, where the sick poor are treated free on the recommendation of the administrative body of a town or village; (*b*) the Red Cross Society, which does not function in peaceful times; (3) medical organisations supported by public corporations—these comprise a number of hospitals for indigent consumptives, lepers, and insane people; (4) medical organisations in industrial districts—(*a*) in factories (not all factories, however, have such organisations and only 43·4 per cent. of workers and their families are treated at actual cost); (*b*) mining localities, where workers and their families are treated at actual cost; (*c*) industries supported by the Government, in which workers are treated free and receive during the period of treatment eight-tenths of their daily pay, their families being treated at actual cost. The *Internacia Medicina Revuo*, which is published in France, can be consulted at the offices of the British Esperanto Association, 142, High Holborn, W.C.

HEALTH CONDITIONS IN TANGANYIKA.

FROM a report to the League of Nations on the administration of Tanganyika territory for the year 1926, it appears that the population, according to the census of 1921, was as follows: Europeans, 2447, of whom 1598 were British subjects; British Indians, 9411; Goans and Portuguese Indians, 798; Arabs, 4041; Baluchis, 352; unclassified non-natives, 389; natives, 4,107,000. Since 1921 there has been a considerable increase in the European population, which is now about 4200; similarly, trade development has brought into the country a number of Asiatics as storekeepers, clerks, and artizans. The total native population is now estimated as 4,319,000, as against the 4,107,000 recorded at the census of 1921, but it must not be assumed that there has been a general increase of population, but rather that the enumeration is now more accurate. In a few districts the registration of native births and deaths has been made compulsory, but it is not possible to guarantee the accuracy of the statistics which have so far been obtained. There is no doubt that a large number of births are not registered owing to the traditional native reluctance to announce such events.

For the financial year 1926–27 the approved estimate of expenditure on medical and sanitary services amounted to £190,616, as compared with £147,701 for the previous year, and the position as regards staff improved materially. The number of European medical officers employed increased from 39 in 1925 to 46 at the end of 1926, the number of Asiatic assistant, senior sub-assistant, and sub-assistant surgeons from 39 to 50, and the number of private doctors registered as medical practitioners in the territory from 8 to 14. These figures do not include the headquarter staff, laboratory staff, entomologist, and dental surgeons. A new hospital at Dodoma was opened, and certain sections of the Central Lunatic Asylum were completed. Several new medical stations were placed under the care of sub-assistant surgeons or compounders.

In regard to attendance of natives at Government hospitals, whilst the in-patients figures show a diminution of the numbers admitted, the numbers of out-patients have increased by a considerable amount. This increase is due to the beneficial results obtained in the treatment of yaws and syphilis with bismuth, which attract large numbers of the sufferers to apply for relief. The reduction in the number of in-patients is believed to be due to the increased facilities afforded for early treatment, the improved

conditions generally under which labour is employed, the expansion of sanitation, urban and rural, and the gradual awakening of health conscience in the African population at large. The total of in-patients in 1926 was 26,640, and of out-patients 342,653. There was a total of 946 deaths recorded during the year, a number of which were due to hookworm and pneumonia. Distinct progress has been made in the direction of maternity and child welfare, and there were 18,969 attendances at the clinics during the year.

While better feeding is provided at many plantations, and the expansion of the medical department has made treatment more accessible than in the past, the local situation at several locations still requires improvement. It is hoped that the organisation for the training of African district sanitary inspectors which is being established will prove of value in this direction. A small school for the training of dispensers in charge of a European instructor has been inaugurated. The movement for providing tribal dressers is an entirely new departure, and is exciting considerable interest among the chiefs. Standard sets of equipment and drugs have been drawn up, and are obtained from London by the provincial commissioners. A pamphlet of instructions, outlining simple methods of treatment and the usage of the drugs, dressing, and equipment, both in English and Kiswahili, was printed and issued. The training includes a short course of elementary practical sanitation such as might be applied to improve the unhygienic conditions of rural villages. Drugs for the treatment of worm infestations, such as hookworm, roundworm, and tapeworm, are provided. Much alleviation of illness amongst the outlying district populations, at present beyond the range of our medical units, should result. Over 30 tribal dressers have already been trained, and a similar number is in training.

A special medical officer was detailed for duty in the Moshi district towards the end of the year, for the purpose of conducting a full investigation into the incidence of tuberculosis amongst the tribes inhabiting the Kilimanjaro and Pare mountains. The interim reports received indicate the necessity of employing one or more medical officers on this work for several years, if not permanently. Progress continues in the campaign against yaws and syphilis. Several medical missions have undertaken treatment with drugs and equipment supplied by the medical department, and 11,599 cases of yaws and 1825 cases of syphilis have thus been treated. The total cases dealt with in the last three years are as follows —

	Syphilis.	Yaws.
1924	4,377	20,741
1925	11,288	74,638
1926	17,751	96,624

The incidence of dangerous infectious diseases throughout the territory during 1926 was very low. A total of 20 cases of small-pox was reported from five districts; no deaths occurred. Cerebro-spinal fever showed no signs of becoming epidemic; only light cases, with four deaths, occurred. With the exception of six fatal cases reported from the remote district of Shirati, an endemic area situated on the Tanganyika-Kenya border, no cases of plague were reported in the whole of the territory. Influenza, as in previous years, has been responsible for the largest number of deaths—viz., 209—the number of cases is not known. All but four of the deaths occurred in the districts of Usambara, Rungwe, and Tabora; the two former are mountainous, cold districts, while in Tabora, although the altitude is not so high, bitterly cold nights occur at certain seasons. In all three districts the climatic conditions are exceedingly favourable for the production of complications, such as pneumonia, amongst an ill-clad population suffering from even a mild epidemic of influenza.

During the year six medical officers have been seconded exclusively for sleeping sickness work. No new foci of infection have been discovered, and the activities of the sleeping sickness staff have been mainly concentrated on the infected areas in the Tabora and Ufipa districts. The policy adopted in this enormous area, approximately 10,000 square miles in extent, has been to concentrate the population in fly-free clearings. Tribal organisations have been maintained, and the people still live under the control of their own chiefs. Up to the end of 1926 seven clearings had been completed, extending over a total area of more than 60 square miles, while two more clearings are still being made. 7500 square miles of fly-infested forest have now been evacuated, and the inhabitants, numbering approximately 14,500, have been accommodated in the clearings. The Masoma-Ikoma infected area is still under investigation. From observations made by the assistant-bacteriologist, who himself became infected with Rhodesian sleeping sickness in this district, it appears probable that the disease is endemic throughout the whole of the fly-infested area round Ikoma, and in a north-easterly direction towards the Kenya border. The population in this area do not as a general rule live in intimate contact with the fly, but acquire infection while travelling through fly belts and when engaged in hunting and fishing expeditions. The disease shows no sign of becoming endemic, and until the fly can be eliminated, or the inhabitants removed to fly-free areas, sporadic cases will continue to occur. Treatment, as in previous years, has been almost exclusively by Bayer 205, Fourneau 309, and tryparsamide.

The Tanganyika territory, it is explained in a geographical and historical note, consists of that portion of the former colony of German East Africa which, under the Treaty of Peace with Germany, the Principal Allied and Associated Powers agreed should be administered under a mandate by His Britannic Majesty. The coast line extends for a distance of approximately 500 miles from the Umba River on the north to the Koruma River on the south. Along the coast lies a plain, varying in width from 10 to 40 miles, behind which the country rises gradually to a plateau constituting the greater part of the hinterland. This plateau falls sharply from a general level of 4000 feet to the level of the lakes (Tanganyika, 2590 feet; Nyasa, 1607 feet) which mark the great Rift Valley extending northwards to Lake Naivasha. The seat of government is Dar-es-Salaam (population approximately 25,000), a modern town founded in 1862 by the then reigning Sultan of Zanzibar, and subsequently occupied by the Germans in 1887.

SMITH'S PHYSICIANS' AND SURGEONS' VISITING LIST, 1928.

THIS well-known diary, almanack, and book of engagements is now in its eighty-second year of publication. The pages are ruled for the convenient recording of visits and for entering engagements, while space is provided for addresses, cash, memoranda, and so forth. The size of the book is slightly in excess of 6 in. by 3 in., and it can be obtained with spaces for 75 or 100 patients and with or without journal rulings. Bound in cloth boards or in morocco with tuck, pocket, and pencil, the price varies from 7*s.* 6*d.* to 12*s.* The publishers are Messrs. Hazell, Watson and Viney Ld., 160, Shaftesbury Avenue, London, W.C. 2.

TREMATODES IN MAN.

IN bringing out a Reference List of the Trematode Parasites of Man and the Primates (*Parasitology*, Sept. 30th, 1927, p. 338), Dr. William Nicoll has rendered a distinct service to helminthology, as well as to the practical clinician. The parasites which infest man may usually be found in other mammals, more especially domestic animals, but in spite of numerous investigations, it must be admitted that our knowledge of several of them remains incomplete. Dr. Nicoll gives tabular lists of the parasites and their mammalian hosts arranged in a systematic manner, together with an extensive synonymy, and notes their situation in the body. The paper terminates with a particularly complete bibliography.

CHOCOLATE AND COCOA.

WE have received from Messrs. Cadbury Brothers, Ltd., of Bournville, Birmingham, specimens of their well-known chocolates, the samples sent being known as King George, Mayfair, and Carnival chocolates. Specimens have also been sent of plain eating chocolate, of chocolate with bitter or orange flavouring, and of chocolate in which assorted fruits or nuts are embedded. In addition we have received a specimen of Bournville cocoa. The hygienic conditions under which the wares of the Cadbury Bros. are produced are known to be of the best; all these things are not only of nutritional value, but are also pure and appetising.

MEDICAL CALENDAR.

WE have received a copy of the Medical Art Calendar for the year 1928 published by J. Philip Kruseman, Noordeinde 91, The Hague, Holland. The calendar, which has now reached its tenth year of issue, contains some 27 photographic reproductions of medical interest, all well reproduced. As might be expected, the pictures selected are mostly of Dutch origin, many will be familiar to our readers, while the originals of others are to be found in much-frequented galleries. A feature of the collection is the extraordinary popularity among the Dutch of dentistry as a pictorial subject. The price of the calendar is 6*s.* post paid.

The *London College of Pharmacy for Ladies*, 7, Westbourne Park-road, W. 2, which is under direct medical supervision, offers a nine months' course of instruction to women in preparation for the Apothecaries' Hall Diploma in dispensing. The training facilities at the College are good and the course may be recommended to women whose abilities are suited to this kind of work.